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NECESSITY FOR REMOVAL OF PTERYGIA BEFORE OPERATIONS REQUIRING CORNEAL INCISION.

By H. V. Würdemann, M. D.,

of Milwaukee.

That the existence of pterygium is an unfavorable circumstance to the success of cataract extraction is a recognized fact. Noyes and others say that 'it is advisable to remove a pterygium before operating if it be of any size.' Yet as we read along in the text-books no reference is found of this factor being an element of danger in other operations on the eyeball as iridectomy. In the declining stage, when thin and non-vascular, the pterygium may not especially be the abode of suppurative micro-organisms, yet we know that when thickened and progressive the growth is full of germs and is a possible source of infection for any corneal wound. Still a late text-book says: It is conceivable that the most suitable way of dealing with an extreme case would be to perform iridectomy downward and outward, and *the removal of the growth would be optional*,[1] but I have never seen such a condition."(1) Ryerson has lately reported (2)a case of pterygium growing over the pupil in which iridectomy was done with great benefit but the pterygia were not removed. As for myself, I consider that the danger of infection is too great in these cases to warrant iridectomy or any other operation necessitating incision into the cornea, without first disposing of the pterygium, be it large or small. It is my custom to remove these growths before proceeding to the major operation as I can not afford to run any risk of corneal suppuration. The accompanying

[1] Italics mine.

figures are faithful representations of a case in which the pterygia were developed to an unusual extent and which illustrates the advisability of the policy I have advocated.

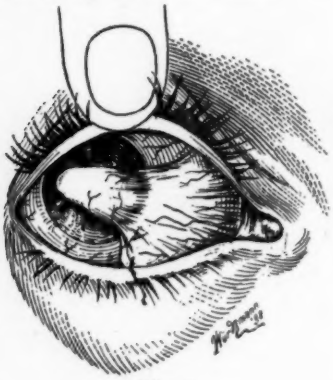

Fig. 1.

Fig. 2.

Mrs. Z. German, æt. 60, came to me on account of inflammation and intense pain in the right eye. She had pterygia on both eyes for many years which about five years ago had grown across the pupils, but since that time had been stationary. Three months before an attempt at iridectomy had been made on the right eye, followed by ulceration of the corneal wound and iritis. She then went to see Dr. Philler of Waukesha who referred her to me for treatment. On examination I found the right eye sightless, from swelling of the pterygium, opacity of the cornea and occlusion of the pupil. She had considerable pain from the iritis and there was a muco-purulent discharge from the swollen pterygium. The lower lid was turned in and the lashes rubbed on the eyeball. This was occasioned by pressure from a compress bandage which had been worn for three months. As this condition remained after the iritis had been subdued by treatment I did the Snellen suture operation, restoring the lid and lashes to the normal position. The growth on this eye was then considerably reduced in size. (Fig. 1.) In the left eye the vision was not sufficient for the counting of fingers at any distance, thus the patient was in a deplorable condition. The corneal portion of the pterygium was thin, long and slender, extending across the pupillary space almost to the temporal limbus, (Fig. 2.) The patient informed me that previous to the attempt at operation before mentioned, the vision of the right eye was about the same as in the left. I removed both pterygia by excising them with a rhomboidal portion of the conjunctiva; removing the attachments, covering the bared space by sliding flaps of conjunctiva and carefully suturing the caruncle in place. I found the head and neck of each pterygium but

superficially attached to the anterior epithelium and easily torn away. No retraction of the caruncles followed. I afterwards made an outward iridectomy on the right eye, which disclosed a cataractous lens, and a downward and outward iridectomy on the left. A light attack of iritis followed in the right eye and the new pupil soon filled up with lymph. In the left the resulting vision with plus 5.00 cyl. 180°, was $\frac{8}{60}$. With plus 3.00 added the patient is enabled to sew, and read large print. I have before noticed that considerable irregular astigmatism follows the operation for pterygium if the tumor has encroached any distance upon the cornea. This is clearly demonstrable by the ophthalmometer. I wish here to repeat a point brought up by a late paper, (3) "that the periphery of the cornea is the seat of considerable irregular astigmatism and that the resultant vision to be gained by an operation for artificial pupil is proportional to the degree of peripheric decentration of the new pupil."

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REFERENCES.

1. Noyes, H. D., "Dis. of Eye," 1890.

2. Ryerson, G. S, "Extreme Cases of Pterygium," N. Y. Med. Rec., May, 1891.

3. Würdemann, H. V., "What may be Considered Normal Corneal Astigmatism?" Trans. Amer. Med. Assoc. Sect. in Ophth. 1892.

OBJECTIVE STRABISMOMETRY BY THE KERATOSCOPIC ARC OF DE WECKER AND MASSELON.

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Recent ophthalmic literature has contained several articles on objective strabismometry, and prominent among them are the ones from the pen of Priestly Smith[1] and E. Maddox[2]. To the former belongs the credit of having described a method of determining deviations of the eyes as well as the fixation-power, by observing the reflected image of the ophthalmoscopic mirror during the routine examination with that instrument for ametropia, condition of the media, fundus, etc. Thus an approximate test is made of the muscular apparatus, and the practical usefulness of the method is apparent. When, however, an accurate measurement of the deviation in concomitant or other forms of strabismus is desired, and this is always of importance where an operation is to be done, or its result recorded, the same author measures such deviation by the distance along a graduated tape, fixed at one end to the ophthalmoscope, which his disengaged hand used as a fixation object, is moved in order to bring the mirror-image of the deviating eye to the center of the pupil. He admits that: "This method has the disadvantage, if it be one, of requiring the patient to fix an object at a distance of one metre instead of across the room, under which condition the angle of the deviation may in some cases be modified by the accommodative act.

It is obvious also that since the position of the measuring tape does not exactly correspond with the arc of a circle round the deviating eye, the angular measurements will not be absolutely precise; but if the observer remember to keep both his hands as nearly as may be at the same distance from the patient's face, no important error will arise."

Dr. Maddox in his later article, after stating that it has been pointed out "that Priestly Smith's method presupposes concomitancy, and therefore is not suitable in testing the operative effect after squint operations since concomitancy does not then exist," goes on to assert that this difficulty is easily overcome by telling the patient to keep following the surgeon's hand with his face as well as his eye. The difficulty

[1] Ophthal. Rev., vol. vii., p. 349, 1888, and vol. xi., Feb., 1892.

[2] Edinburgh Med. Jour., Jan., 1892. Archives of Ophth., Jan., 1892.

of securing such coöperation on the part of some patients must, I think, count as still another disadvantage of the method.

But Dr. Maddox's method seems to me open to precisely the same objections as those noted above, while it is far less handy; at the same time it demands of the patient still more coöperation.

"On the wall is a horizontal board with a candle in the center, and marked to the right and left therefrom in meter-angles, degrees, or both for a distance of one meter. The figures to the right are black, and those to the left red. A string one meter long is fixed by one end to the center of the board. The patient is placed opposite the candle at the distance of one meter, the string being raised to measure the distance, and then being allowed to drop. Children are made to stand upon a chair. First, while the patient is told to look at the candle, the observer places his own head a little lower than the imaginary line from the candle to the patient's squinting eye, but in the same vertical plane with it, so as to look into the said eye from the distance of about a foot. At once the amount of squint is roughly guessed by the position the neglected image of the candle occupies on the cornea. The sound eye is then covered to let the squinting one look at the candle; while it does this the position of the corneal image is carefully noted. Now the best eye is again uncovered and the patient is told to look at the number on the board which we have guessed at as probably being the measure of the squint. If the guess be right the corneal image will now occupy the same position on the squinting eye that it did when the best eye was covered, and the squinting eye was fixing the flame; should the guess be short of the mark, he is told to look at the next figure, or the next still, or should it be over the mark, he is directed to a figure less. The figure settled on gives at once the measure of the squint in its primary deviation.

To test for concomitancy, the patient's head should be rotated 20° or 30° to the right, and then to the left, and the squint be measured in each of these positions."

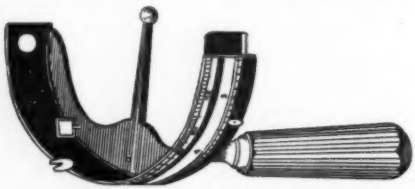
The above method, it may be remarked, is essentially but a modification of another method of Hirschberg, which differs mainly from that of Dr. Maddox in that "the patient holds a red glass over the good eye and fixes it on a candle at zero; another flame appears somewhere else in the field and its position on the wall designates the angle of the squint."[1] (The line on the wall being marked to the right and left of the candle with angles.) Inasmuch as in many cases of squint, diplopia cannot be produced, the method as above employed is not an objective one.

Of all methods, the one universally recognized as superior to all others is the perimeter-method as being obviously the most correct, but

[1] Diseases of the Eyes, Noyes, 1890, p. 168.

it is not in routine use because it is too slow, and is somewhat difficult, particularly with children. But the use of the ordinary perimeter is tedious at all times, and not portable. hence the small portable instrument introduced by Schweigger, has practically superseded the large ones, at least in routine examination of the field of vision. Now, theoretically speaking, if we could conveniently employ the lighted taper with Schweigger's perimeter, or some movable object along its arc, we would have the ideal clinical strabismometer. Precisely such an instrument is at the oculist's disposal and has been used by me for about five years, and I do not think I exaggerate at all when I assert that it combines all the advantages of the methods above described, with none of their disadvantages, while it is more truly objective and accurate, as well as rapid.[1] It is the *keratoscopic arc* designed by de Wecker and his chief of clinic Dr. Masselon, and is thus described:[2]

"A blackened arc of 15 centimetres radius having at its center as well as its extremities (60° from the center,) a small white disk 2½ centimeters in diameter (See cut.) A band of blackened card-board is



placed along the inner surface of the arc. This band is movable and slides in a groove so as to follow the concavity of the arc. At the center of the band is fixed a white disc 25 millimeters in diameter, in the top of which is a notch; near each end of the band is fixed a white disc similar to the central disc, and placed at such a distance from it that their outer borders correspond to an arc of 70° from the center of the central disc. Finally, on the body of the instrument, at a distance of 6 centimeters from its axis (represented by the knobbed rod 14½ centimeters long intended to be placed against the lower border of the orbit of the eye to be examined,) there is on each side a socket for the reception of the stem of a small plane mirror. A second socket, nearer the axis by 1 centimeter, may have to be used when the patient's eyes are less far apart, as in children.

"When we wish to measure the strabismic deviation of an eye, the keratoscopic arc is placed before the eye, the rod resting against the lower orbital border at a point corresponding to the middle of the

[1] Can be obtained from E. Meyrowitz, N. Y.

[2] De Weckes et Masselon. L'arc keratoscopique, son emploi comme keratoconometre pupillometre et strabometre (*Reaue clinique d'oculistique*," t. iv. p. 201.)

palpebral opening, instructing the patient, whose back is turned to a well-lighted window, to fix, with the sound eye, an object in the distance (behind him), looking straight into the little mirror which is placed at the proper angle for the purpose. The handle of the instrument may be committed to the patient, the fixedness of the arc being assured by the point of rest of the rod. Besides, a few oscillations have little importance, since the patient always fixes the same point in the mirror which will undergo the same displacement as the arc."

Then the band of card-board is moved (by the rack and pinion, Tr.) while observing the reflections on the cornea of the squinted eye, of the three discs through the notch in the middle one. The reflection of the central disc should be made to occupy the center of the cornea by the displacement of the band. The number of degrees of the arc corresponding to this position will indicate the deviation of the strabismic eye.

The cornea having a certain breadth, there is some difficulty in placing the reflection of the disc so that it shall be exactly at the center of that membrane. What is easy when points are near together becomes uncertain when we have to do with a space of 11 or 12 millimetres, which is the ordinary diameter of the cornea. It is to facilitate this centering, that we have the two white discs near the ends of the card-board band; these discs should each form an image near the limbus of the cornea when the image of the central disc is reflected exactly from the center of the cornea.

In a case of divergent strabismus, we observe all three of the reflections at the same time. But if the strabismus is convergent, the eye being turned toward the nose, one of the two lateral discs affords no image; nevertheless in such a case, the centering will be assured thanks to the indications furnished by the other lateral image.

What we have obtained is only, of course, the measure of the apparent strabismus; it is necessary to now measure the extent of the *angle gamma* to add it if the squint is convergent, and subtract it if it is divergent (assuming that this angle is positive.)

The angle gamma is measured in the same manner as the strabismic deviation. The patient fixes with the eye examined, a point situated in the direction of the center of the instrument. A colored disc 5 millimeters in diameter which is found on the back of tho little mirror which is reversed and placed in the middle socket, (central), fulfills perfectly the office of a point of aim. The band with itsthree white discs is then moved while their reflections are observed through the central notch, until those of the lateral discs are seen reflected at an equal distance from each lateral border of the cornea. The reflection of the central discs then corresponds very exactly to the center of the cornea. It remains only to read upon the arc the displacment in degrees of the

band, to have the angle gamma, which is determined on the healthy eye when the vision of the squinted eye is too imperfect. Knowing thus the angle gamma, which is positive if the band has had to be displaced inwards, it is easy to pass from the apparent to the real strabismus.

Usually so exact a measurement is not necessary. So we content ourselves habitually with a much more simple procedure which gives a sufficient approximation in the majority of cases."

Instead of seeking to place the reflection of the central disc exactly at the center of the cornea, we bring it to the center of the pupil, which we know, does not correspond exactly to the middle of the cornea, but a little inwards from it, on the side where the visual line passes.

When the *pupillary center* is taken as a point of view, we do not have to consider the images formed by the lateral discs, and we accomplish easily our object by reason of the generally moderate size of the pupil, which, besides, is observed at a short distance, since the arc has a radius of only 15 centimeters, which facilitates the centering.

"The deviation of a strabismic eye being thus measured by the position occupied, not by the corneal center, but by the center of the pupil, we neglect the angle gamma, the result being then little different from that which we would have obtained if we had proceeded more strictly."

The writer can corroborate all the statements of the inventors from actual experience with the instrument, it being accurate, rapid and easy of application. Its value has been especially appreciated after tenotomies where the passive position of the operated eye has been desired in order to give a prognosis as to the necessity or not of further operative correction. Furthermore in facultative divergent strabismus, it has afforded important information as to the extent of the actual amount of squint in relation to the loss of dynamic power of the externus.

I may state that in addition to its usefulness as a strabismometer, this instrument is also a keratoconometer. By a simple procedure, with the aid of two additional and movable discs, the proper hyperbolic lens can be quickly selected for the correction of conical cornea.

In conclusion I must, however, state that except in extreme and hopeless cases of amblyopia from old strabismus, I believe the method of Dr. Geo. T. Stevens of New York, of provoking diplopia by patient, persevering effort in all cases of what he correctly terms heterotropia (strabismus in contradistinction to so-called insufficiency,) and measuring the static amount of such deviation as well as its dynamic variations,[1] to be the true and scientific method, however its practical application may be restricted by its difficulties and the unwillingness of some patients to submit to the necessary tests.

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[1] Archives of Ophthal. vols. xvi, xvii, xviii and xix.

UNUSUAL FORM OF POLYPOID TUMOR OF CONJUNCTIVA.

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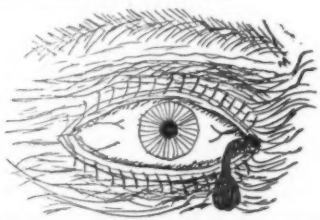
Polypoid tumors of the conjunctiva are not exceptionally rare, and yet I have seen none so large and known of none resembling the one reported below.

Springing from the caruncle, as they usually do, it presented the appearance of an ordinary polypus; but in the history of repeated attacks of inflammation of the mass, with considerable swelling from accummulation of purulent material in the body of the tumor, it differed in its behavior from the ordinary polypus; and when, on its removal, communication was found to exist between a small pus cavity in the body of the polypus and the lachrymal duct, it was found to differ materially from currently reported cases of polypus of the conjunctiva.

H. S. aet. 7. Consulted me Sept. 14, 1891, concerning a small growth, springing from the caruncle ef the right eye, and extending beyond the fissure of the lids so as to lie in front of the lower one.



It was first noticed in July, 1891, and has gradually increased in size up to the present time; though on two occasions temporary accessions to its size arose from inflammatory attacks and formation of pus in the body of the tumor, when spontaneous escape of pus allowed the tumor to subside to nearly its former condition. The body of the tumor was about the size of an English pea; its pedicle one-fourth that size and half an inch in length. Under the influence of cocaine the growth was snipped off flush with the caruncle. Slight hemorrhage followed. The next day the parts looked nearly well. At the center of the spot from which the pedicle had been removed, was a minute opening large enough to admit a No. 1 Theobald probe, which passed readily to the lachrymal duct; and pressure of the duct caused a scanty escape of glairy mucous from the opening. The parts were touched with blue stone; a boric acid wash was used, and in a few days the child returned cured. The center of the body of the tumor contained a small amount of pus, and a minute canal thence throughout the pedicle was traced.

Microscopic examination showed the growth to be granulation tissue.

A recent letter concerning this patient, informs me of a slight return of the growth.

THE LOCALIZING VALUE OF SOME AFFECTIONS OF THE EYE IN CEREBRAL DISEASE.

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(*Continued from Page* 170.)

CROSSED AMBLYOPIA.

Some few cases have been recorded in which the eye on the side opposite to that of the cerebral lesion has been almost blind with extreme contraction of the field, while the other eye was affected to a much smaller degree.

Some years ago, I saw a case that seemed to be one of this description, but I regret to say the patient's vision was not properly examined. Post-mortem—there was extensive softening over the left side of the brain, involving the angular gyrus. The cause of this crossed amblyopia has often been ascribed to a lesion in the angular gyrus, in which situation some have imagined a higher visual centre for the opposite eye. Ferrier and Yeo's experiments have been quoted in support of this view. They found that after extirpation of the angular gyrus this symptom occurred, but it should be noted that it was only transitory, and that in similar experiments made by Brown and Thompson, no such loss of sight followed the operation.

Conclusions based on experiments on lower animals are liable to many sources of error. The visual tests demand that the animal's intelligence be unimpaired, and a condition of mind-blindness, or general failure of the higher mental faculties, may be easily mistaken for real loss of vision. When it is remembered how much further the field of vision extends to the temporal side than to the nasal, it will be understood how easily hemianopia may be interpreted as amblyopia of the eye that has lost the temporal half of its visual field. Some observers (Nuel) find that, in order to produce a permanent effect, the destruction of the angular gyrus must involve the deeper parts, and that then the defect is of the hemianopic type. Obviously in these cases the optic radiations are implicated.

Now, there is reason to believe that both right and left visual areas are connected with the left angular gyrus (*vide infra*); but the evidence points to the equal representation in this situation, at any rate of the central field of vision, of each eye. Further, lesions in this situation are very rarely accompanied by crossed amblyopia; and, lastly, the clinical characters of the affection seem to be peculiar—they resemble more those of optic atrophy. The peripheral contraction of the field, the more or less complete retention of the central vision, the disturbance of the color sense, would suggest a lesion in the optic nerves or chiasma.

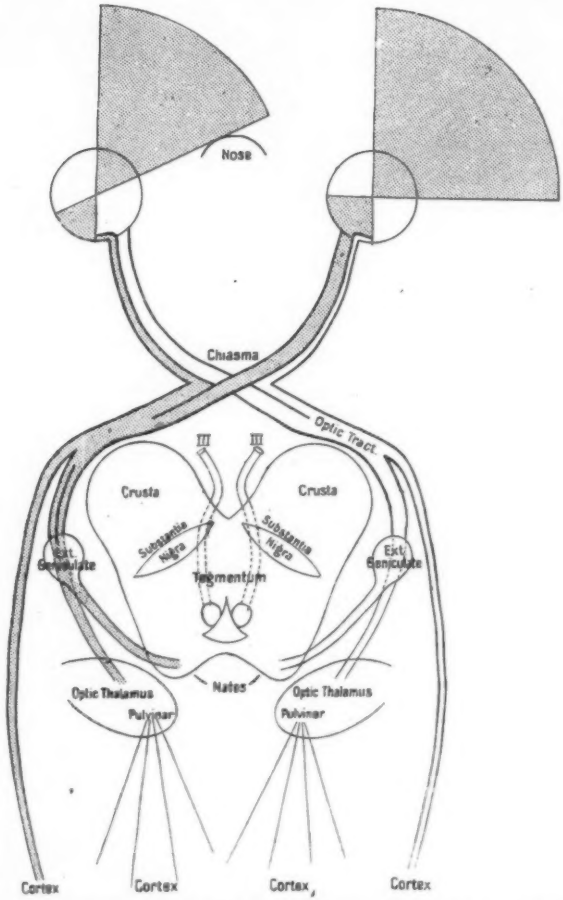

DIAGRAM TO ILLUSTRATE THE COURSE OF THE VISUAL IMPULSES FROM THE RETINA TO THE CORTEX.*

(Oblique Section.)

The shaded sectors indicate the right visual field of each eye, corresponding to the left half of each retina.

The III. nerve is represented as arising from its nucleus in the floor of the aqueduct of Sylvius passing through the pons and emerging at the inner border of the crus.

* *Vide* ANNALS OF OPHTHALMOLOGY AND OTOLOGY, p. 167, July, 1892.

Crossed amblyopia in connection with hemianæsthesia[1] of the same side has been found in lesions of the posterior part of the internal capsule (Müller, Bernhardt, Pitres). In all these cases there was also peripheral contraction of the field of the eye on the same side as the lesion, and in many cases the central vision of the opposite eye was but little affected.

I am far from being able to offer a satisfactory explanation of this phenomenon, but I would suggest that in all these cases a careful examination of the condition of the third ventricle be made.

The floor of the third ventricle in front of the diverging crura descends to form the funnel-shaped opening of the infundibulum. On the anterior wall of this funnel there is a pronounced ridge, an inversion, in fact, due to the presence of the optic chiasma that lies just below. A sort of pocket or recess is thus formed in front of this chiasma.

It is possible that a lesion of the third ventricle involving this recess may be found in these cases. The pressure on the optic nerves and the anterior part of the chiasma might explain the amblyopia. There is abundant pathological evidence to show that the macular fibres (*i. e.*, those concerned in central vision) occupy the axial part of the optic nerves. The maintenance of central vision, in some of these cases, might, therefore, be explained; its abolition would only occur with pressure sufficient to destroy the conductivity of even the central parts of the nerve. This hypothesis does not, however, explain why one optic nerve should be more affected than the other. It is, however, a point worth examining, I think, and, as far as I know, has not been investigated or even suggested to explain this anomalous symptom. Since the pupillary reflex to light appears to depend chiefly on macular fibres, the maintenance of this reaction would not be antagonistic to this hypothesis unless the amaurosis was complete. These cases require very careful investigation, both during life and after death; indeed, I think it is not improbable that many that have been described as cases of crossed amblyopia would be found to present rather the symptoms of hemianopia. It should be noted that patients with loss of half of their visual field, almost invariably complain of blindness in the corresponding eye. An examination of the field with the perimeter reveals the true condition.

For those who do not possess a perimeter, I would suggest a very simple device for quickly testing the visual field. Let us suppose the field of the right eye is to be examined; the patient is told to close his left eye with his hand, and the surgeon closes his own right eye in a similar way with his right hand. He then takes a piece of white paper in his left hand, and, standing at a distance of eighteen or twenty inches from the patient, directs him to look fixedly at his left eye, and to tell him the moment he sees the white paper come into view as it is

[1] It is possible, as Gowers suggests in criticising the term retinal hyperæsthesia, that there is a communication between the centres of the second and fifth nerves, so that an excitation of the centre of the fifth may alter the sensibility of that for vision. The amblyopia arising from dental irritation of the fifth nerve and the photophobia attending most corneal ulcers might be cited as bearing on this suggestion. If this assumption can be made, the amblyopia in these cases may have a direct relation to the hemianæsthesia in these cases of affections of the posterior part of the internal capsule.

moved about in the median vertical plane between them. It will be found that a normal individual can see the paper when held at arm's length on the temporal side, but on the nasal side the object must be brought much nearer, *e. g.*, nine or ten inches. The advantages of this method are two-fold: 1st, the surgeon is constantly watching the patient's eye, and can note the moment he ceases to fix properly; 2nd, the surgeon is taking his own field of vision at the same time as the patient's, and can note any discrepancy that there is between them with the greatest readiness. On the assumption that his own field is normal in extent, this is practically all that is wanted for a first rough test.

If any discrepancy be found, it is most desirable that a thorough perimetric examination should be at once made. It is hardly necessary to point out that in all cases of scotoma or amblyopia a careful examination of the eye itself should be made before concluding that the defect of sight has a retro-ocular source or any localizing value in cerebral affections.

MIND BLINDNESS AND WORD BLINDNESS.

Swanzy records a case of mind blindness, associated with left hemiachromatopia of five months duration. The patient complained that he could not recognize even his most intimate friends until they spoke, though he could see them distinctly. There was no word blindness. The lesion must have been on the right side of the hemisphere, but there had been no opportunity for discovering its site at the time of publication.

Word blindness, or inability to read, seems to have been associated with right hemianopia in many cases; there is only one record of this complication occurring with left hemianopia (Borel). There is strong evidence for regarding the left angular gyrus as the seat of the visual word centre.

M. Sérieux has reported a case this year (1892) in which the visual word centre was destroyed. The patient could neither read nor write, but had no symptoms of mind blindness or hemianopia. *Post-mortem* a small patch of softening was found, limited to the cortex of the left angular gyrus.

Last year, M. Dejerine had a similar case, complicated, however, by right hemianopia. *Post-mortem* a similar patch of softening was found, limited to the left angular gyrus and the subjacent optic radiations, which accounted for the right hemianopia.

The recently published case of M. Dejerine is most instructive as to the site of the visual word centre and its connections.

The patient found one morning, in 1887, that he could not read a word or even a letter, whether printed or written, though figures still retained their significance, and he was able to execute arithmetical calculations, whether in his head or on paper, with his usual skill. He was a good musician, but he had lost the power of reading from a musical score. He could write with facility, both spontaneously and from dictation, but could not read what he had written; nor could he copy from manuscript or book. He had right hemianopia. There was no aphasia, no loss of intelligence, no hemiplegia. This condition lasted for four years without any change taking place. Obviously the visual area on the right side was intact, and his centre for visual word memory, for he could express himself in writing with ease, and, of course, his cheirokinæsthetic centre and the commissure connecting these two must have been uninjured. Clearly the commissure between the right visual area and the visual word centre was here implicated. On December 31, 1891, he was sud-

denly attacked with pronounced paraphasia and total agraphia, without hemiplegia, or loss of consciousness. There was no word deafness. He died on January 10th of this year (1892). At the *post-mortem*, the right side of the brain presented no morbid change, but in the left hemisphere were found two lesions corresponding to the two attacks.

There was a yellow atrophic patch, occupying the tip of the occipital lobe, the base of the cuneus and the lingual lobule, comprising the posterior part of the inferior occipito temporal convolution; the left optic radiations were also atrophied. The right hemianopia is, therefore, explained; and we may regard the word blindness as due to the implication of the commissural fibres passing from the right visual area, by the splenium of the corpus callosum, to the left angular gyrus. The lesion would involve these fibres in the latter part of their course.

The more resent lesion consisted in a patch of red softening, occupying the inferior parietal lobule, and involving the angular gyrus. The whole of the frontal lobe was intact. The total agraphia seems to have been due to the destruction of the visual word centre in the left angular gyrus.

OPTIC NEURITIS.

Optic neuritis occurs in about four-fifths of the cases of cerebral tumor (Gowers) at some stage in their progress. It may occur early or late, it may present the same ophthalmoscopic appearances for months, or it may subside within a few weeks, leaving only slight evidence of consecutive atrophy. Optic neuritis may occur in tumors in almost any part of the brain. At a recent meeting of the Northumberland and Durham Medical Society, Dr. Drummond stated that he had never met with it in tumors of the pons, and it was certainly absent in the two cases of the kind that I had an opportunity of examining during life and post-mortem. It may be concluded, therefore, that optic neuritis is very frequently absent in pontine lesions. "Tumors of the medulla, below the pons, usually cause death before optic neuritis is developed, but Dr. Barlow has met with neuritis in one case where there was a small tumor in this region."—(Gowers.)

My contention then is justified, that optic neuritis has practically no localizing value, and the discussion of its causation has no bearing on the subject of this paper.

OPTIC ATROPHY

This may be either primary, secondary, or consecutive—*i. e.*, post neuritic. Secondary atrophy may be due to compression of the optic nerves or the chiasma, and hence may be of some use in regional diagnosis. Secondary atrophy may be distinguished by the fact that the loss of sight occurs before the atrophic change in the disc. Some suggestion as to the site of the lesion may perhaps be given by the interval of time before the ophthalmoscopic change manifests itself. The other forms of atrophy have no localizing significance.

If the long course of the optic nerve fibres from their origin in the occipital cortex to their termination in the retina be considered, it will be seen how imperative is the thorough investigation of the visual function in all cases of cerebral disease in which such an examination is possible. In this connection it is important to remember that negative evidence is scarcely less valuable than positive, seeing how largely the localization of a cerebral lesion depends on the process of exclusion.

II—DISTURBANCES OF THE MOTOR APPARATUS OF THE EYEBALL.

Centres governing the movements of the limbs have been discovered and defined with some degree of accuracy in the cortex of the opposite

cerebral hemisphere, but experimental investigations have not been so successful in ascertaining any such motor areas for the opposite eye. The reason of this, no doubt, is that the eyes are so correlated in function, in accordance with the requirements of bin-ocular vision, that one eye hardly ever moves in the normal state without a corresponding movement of the other. These associated movements may have a cortical representation, but if so it is probably double, and consequently, if the area on one side be destroyed, the conjugate movement is carried on by that in the other hemisphere. Hence cortical lesions do not entail loss of movement in the eyes, with the single exception of the lateral ranging movements, which, as might be anticipated, are represented in each hemisphere.

In the same way, since both eyelids almost always act together, their movements are probably doubly represented in the cortex, hence facial palsy of cortical origin leaves the orbicularis palpebrarum practically unaffected, so that the eye can be closed. The movements of the lids are, however, sometimes dissociated, as in the act of winking, and it would appear that this act is excited by an area in the opposite hemisphere, probably to a varying degree in different individuals. Hence it is possible to get some eyelid palsy as the result of a cortical lesion, but it is never complete.

A.—Associated Movements.

CONJUGATE LATERAL DEVIATION.

The cortical centre for the ranging movements is still undetermined, we know, however, that the area which governs the ranging movements to the right is situated in the left hemisphere, so that when this area is destroyed or its action inhibited the eyes turn to the left, or as Prévost expresses it, they look at the cerebral lesion. As to its site Victor Horsley gives clinical evidence to show that it occupies the posterior third of the middle frontal convolution, and this is borne out by experiments on the monkey. Wernicke and Grasset, however, regard it as situated in the inferior parietal lobule, but the facts they adduce in support of this seems inconclusive, as they allow of different interpretation. This symptom is, however, so frequent, especially in cerebral hemorrhage, and at the same time so transient, that it is probably rarely a direct symptom, and has, therefore, little localizing value in lesions of the cerebral hemisphere.

Little is known of the course of the nerve fibres from the cortex. Obviously in the ranging movement to the left, the efferent impulse must pass along the left sixth nerve, and that part of the right third nerve that supplies the right internal rectus. Conjugate deviation has been observed in lesions of the internal capsule, but this cannot be regarded as decisive evidence that the efferent fibres leave the cortex by this route. Adamück has found that stimulation of the right anterior corpus quadrigeminum in the dog causes a rotation of both eyes to the left. Again, clinical evidence in man shows that *destructive* lesions on the right side of the pons causes a conjugate deviation to the left.

It is probable that the efferent fibres for this movement, on leaving right cortex, pass through or close to right anterior corpus quadrigeminum, and then cross over to the opposite side, and reach the left superi or olivary body of the pons, as Gowers suggests. "This body is connected with the nucleus of the sixth on the same side, that lies above it,

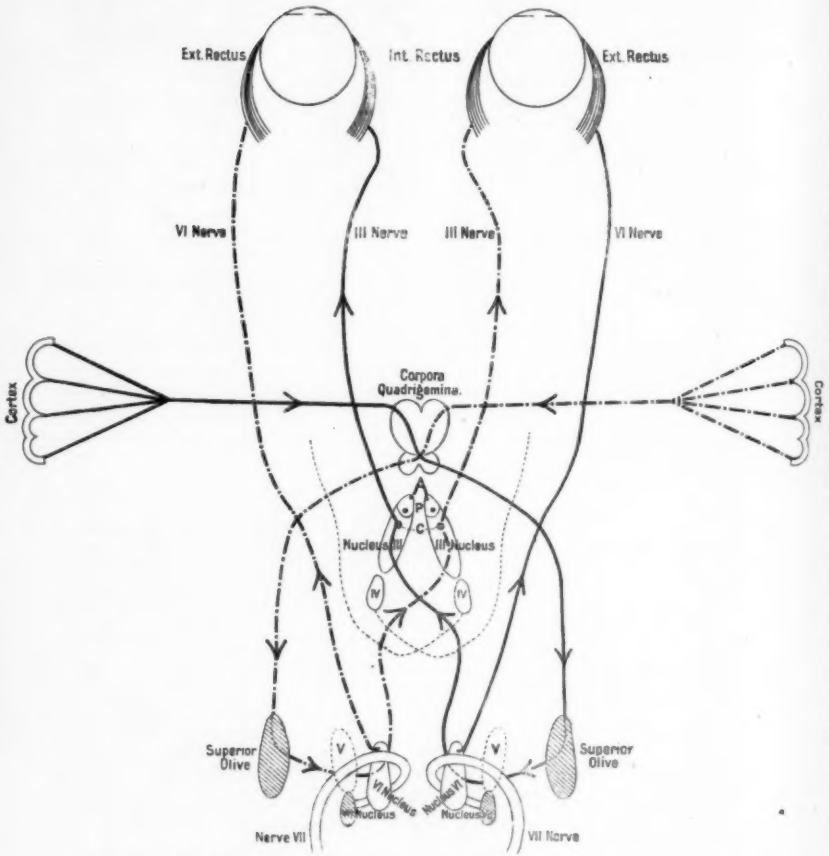

DIAGRAM TO ILLUSTRATE THE COURSE OF THE NERVE FIBRES FROM THE CENTRES THAT PRESIDE OVER THE RANGING MOVEMENTS OF THE EYES.

The superior olive and the VII. nucleus are situated below the level of the VI. nucleus.

A. *Most anterior part of III. nucleus presiding over the function of accommodation.*

P. *The centre for the sphincter iridis.*

C. *Points to that part of the III. nucleus that innervates internal rectus, and consequently related to the function of convergence.*

and through it by means of the decussating longitudinal fibres on the dorsal surface of the pons, with the nucleus of the third on the opposite side. Should this prove to be correct, an explanation is afforded of the clinical varieties of conjugate deviation. (*Vide diagram.*)

In destructive lesions, on the right side above the corpora quadrigemina, the conjugate deviation will be to the right. If the lesion be below the corpora quadrigemina, there will be conjugate deviation to the left. It may be noticed that the conjugate deviation in pontine lesions is almost always permanent, and, unlike that due to cerebral lesions, may be regarded as a direct symptom. It should be remembered, however, that this abnormal position of the eyes may be due to spasm of the implicated muscles as well as as to paralysis of their antagonists. The clinical varieties may, therefore, be classified in the following way (Landouzy):—

1. A patient who turns his eyes (and usually his head also) towards the contracted side, is suffering from an irritative lesion of the cerebral hemispheres on the opposite side.

2. One who turns his eyes away from the paralyzed side is suffering from a destructive lesion of the cerebrum on the side towards which his eyes are directed.

3. Conjugate deviations toward the paralyzed side indicates a destructive lesion of the pons on the opposite side.

4. Conjugate deviation away from the contracted side suggests an irritative pontine lesion on the side towards which the eyes are turned.

Gowers points out that in destructive pontine lesions the symptoms vary according as the nucleus of the sixth be involved or not. If the lesion be on the right side, and above the nucleus of the sixth, each eye can be moved up to the middle line, but no further. If, however, the right sixth nucleus be implicated, the external rectus is completely paralyzed, so that the right eye is fixed in the position of inward rotation, while the left eye can be moved up to the middle line as in the previous case. In this condition the facial nerve is usually paralyzed as well, owing to the proximity of its origin.

LOSS OF THE UPWARD OR DOWNWARD MOVEMENT OF THE EYES.

Loss of the upward movement, together with paralysis of the levators of the lid, has been observed in disease of the posterior part of the third nerve nuclei (Kahler and Pick). Gowers records a case in which the levators were unaffected, and at the autopsy "a very small tumor was found in the middle line behind the posterior quadrigeminal bodies, damaging these slightly, the velum, and the adjacent part of the inferior vermiform process of the cerebellum." Paralysis of both upward and downward movements of the eyes, without impairment of the lateral movements, is probably due to a lesion in the posterior part of the third nuclei (Gowers). Swanzy says that if this paralysis is attended by hemiplegia, the lesion involves the pyramidal tracts at the level of the anterior quadrigeminal bodies, the posterior commissure, and the neighboring part of the optic thalamus. One case has been recorded in which this symptom was complicated by hemianopia, in which, presumably, the pulvinar was involved (Lang and Fitzgerald).

LOSS OF POWER OF CONVERGENCE AND ACCOMMODATION.

Convergence is effected by the simultaneous action of the internal recti; and accommodation by the ciliary muscles. Both these muscles are innervated by the third nerve. There is reason to believe that the most anterior part of the third nucleus, at the opening of the aqueduct of Sylvius into the third ventricle is associated with three acts, viz., accommodation, contraction of the pupil, and convergence, and it is believed that this order represents the arrangement, from before backwards, of those parts of the nucleus that control these respective functions.

Loss of convergence, without impairment of the ranging movements, is commonly associated with loss of accommodation. I have been unable to find any post-mortem record of the pathological condition where this has occurred. The condition appears to be usually transitory, and has in the present state of our knowledge little or no localizing value.

M. Parinaud has met with several cases of this nature. In one case that he records, the subject was a child of 10, with absolute loss of convergence and accommodation, though the ranging movements were normal. The pupil acted well to light, but not when an attempt was made to excite convergence. The onset of the attack (*i. e.*, the diplopia and inability to read) was sudden, and was associated with vomiting, and an exaggeration of the previously existing headache. However, the paralysis passed off in five days, after a dose of calomel. Four years afterwards the child was again brought to M. Parinaud, on account of certain giddy sensations from which he had been suffering for the last six months. He found simple convergence insufficiency, and ordered prisms (base in), which were entirely successful in relieving the boy of his symptoms.

I quote this case to emphasize the importance of not forming a hasty conclusion in these cases, that there is necessarily a gross structural change. The same caution is necessary in cases of convergence spasm, of which M. Parinaud has also published examples. Loss of accommodation, without impairment of convergence, is very frequently seen after diphtheria from parenchymatous degeneration of those short ciliary nerves that supply the ciliary muscle. The pupillary fibres are usually but little affected.

NYSTAGMUS.

This is said to be especially common in tumors of the cerebellum (Gowers); but it may arise from so many various conditions that it may be regarded as of no localizing value.

B.—NON-CONJUGATE MOVEMENTS.

A deviation of one eye downwards and outwards, while its fellow is turned upwards and inwards has been observed in some cases of disease of the middle cerebellar peduncle (Gowers.) No explanation has been offered of its occurrence, but according to Swanzy it has only been seen associated with lesions in this situation.

PTOSIS.

Occasionally ptosis has been met with in cerebral lesions of the opposite hemisphere without implication of the other branches of the third. It has no localizing value, but it may point to a cortical lesion if it be the only focal symptom.[1] It is frequently a distant symptom.

[1] The hysterical ptosis that is sometimes seen is probably due to some functional disturbance of the cortex. I have met with one typical case of this kind affecting the left eyelid.

A slight ptosis on one side may be also due to an affection of the sympathetic on the same side, paralyzing the unstriped muscular fibres of the lid. The concomitant symptoms of sympathetic paralysis make the diagnosis in most cases easy. We usually find contraction of the pupil, apparent or real enophthalmos, contraction of the palpebral opening, though the lid can be raised, and vascular dilatation on the same side of the face. This sympathetic paralysis is said to have been found in lesions of the corpus striatum.

Paralysis of individual ocular muscles has not as yet been met with in lesions of the cortex or of the cortico-peduncular tract, as I have just said, there seems to be no direct representation in the cortex of one hemisphere of the movements of the opposite eye. Hence, in any case of paralysis of an ocular nerve,[1] we may assume that the lesion is either situated at its nucleus of origin, or in some part of its sub-nuclear course to the ocular muscle. Since the nuclei are in such close relation with each other, paralysis of a single muscle suggests a sub-nuclear lesion. Thus the nucleus of the sixth could scarcely be affected without involving the seventh also. Indeed the fibres from the facial nucleus curve round that of the sixth. The ocular nerves may also be paralyzed by a growth within the orbit, but in such cases the concomitant symptoms, *e. g.*, orbital pain, tenderness, exophthalmos, etc., generally enable one to form a correct diagnosis. In their course through the cavernous sinus it would be almost impossible for one nerve alone to be affected, with the exception perhaps of the sixth. The third, fourth, and ophthalmic division of the fifth would almost certainly suffer together. There would usually, if not always, be some œdema, and enlargement of the veins about the orbit, as well as exophthalmos, which would enable one to recognize the site of the lesion. Again, in basilar lesions, behind the sella turcica, the associated conditions will lead one in many cases to localize the exact part of the nerve affected. It should be remembered, however, that paralysis of the ocular nerves is sometimes a distant (transitory) symptom.

It is sometimes a difficult matter to determine exactly which of the ocular muscles is paralyzed. Very often, however, the peculiar carriage of the head suggests at once the muscle that is at fault. In the case, for instance, of paralysis of the right external rectus, the patient is annoyed by the diplopia that is induced unless he turns his eyes towards the left. In order now to see an object that lies in front of him, without the annoyance of these double images, he turns his head towards the right. Similarly with paralysis of the other muscles, the patient tends to place his head in that position in which diplopia can be avoided. This general law may be stated in the following form:—

The head assumes a position similar to that which the eye would take were the paralyzed muscle to act on it. The sound eye assumes a direction similar to that of its paralyzed fellow.

There is another symptom that is sometimes of service in the diagnosis of incomplete paralysis. It depends on the fact that our knowledge of the position of things in space is largely due to the innervation that we give to the ocular muscles. A patient, for instance, with paresis of the right external rectus will have to make a considerable effort in

[1] The occasional paralysis of the levator palpebræ from a cortical lesion has been already noticed.

order to turn his eye towards the right. If the left eye be covered, he will imagine that an object on his right occupies a more lateral position than it does in reality, and, if asked to touch it, will stretch his hand out towards the right of it. This erroneous projection is always in the direction of the action of the paralyzed muscle. (Gowers.)

In most cases a careful examination of the movements of the eyes, combined with a study of the diplopia in different parts of the field, will reveal the various muscles that are at fault.

If, however, one of the eyes be blind, the difficulties are immensely increased, as the subjective symptoms of diplopia fail to present themselves, and the diagnosis must be made almost entirely from the observation of the movements of the eyes. Paralysis of the obliques might easily escape detection under such circumstances. It occurs to me, however, that it might be recognized by means of the ophthalmoscope. Owing to the torsion that ensues if the eye be depressed in fourth nerve paralysis, the superior and inferior vertical retinal vessels would be directed obliquely downwards and inwards. Torsion in the opposite direction would occur on raising the eyes in paralysis of the inferior oblique.

PARALYSIS OF THE THIRD NERVE.

The third nerve arises from a nucleus in the floor of the aqueduct of Sylvius, below the anterior quadrigeminal bodies. Passing through the tegmentum and substantia nigra of the crus it appears at its inner border in the interval between the posterior cerebral and superior cerebellar arteries. It then enters the outer wall of the carvernous sinus, and so reaches the sphenoidal fissure.

Owing to its relation to the crus a lesion in this part often affects the third nerve also, and can be readily recognized by the crossed paralysis that ensues. There is hemiplegia on the side opposite to the lesion, and third nerve paralysis on the same side as the lesion. In fact this combination is pathognomonic of disease in the crus, provided that the two affections have appeared simultaneously.

Complete paralysis of the third nerve can be recognized, almost at a glance, by the ptosis, external strabismus, dilatation of the pupil, and loss of accommodation that result from it.[1] This complete paralysis is probably always due to a basilar lesion. Ranchfuss has observed it in a case of aneurism of the left posterior cerebral artery, of the size of a pea, that compressed the left third nerve as it passes under that artery.

Both third nerves might be completely paralyzed by a growth in the interpeduncular space. Gowers records a case which he considers to be due to a tubercular mass in this situation. There was complete paralysis of both third nerves, associated with double optic neuritis and weakness in the limbs of both sides. Under tonic treatment, the child recovered, so that no post-mortem evidence was obtained.

The complete paralysis of the third, so common in syphilis, is probably due to a basilar lesion, but I have not had an opportunity of obtaining post-mortem evidence of this. Were it in the sphenoidal fissure, the nasal nerve could not escape, as it lies between its two divisions.

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[1] There is often slight exophthalmos, due to relaxation of the ocular muscles involved.

PARALYSIS OF THE FOURTH NERVE.

Since the superior oblique rotates the cornea downwards and outwards, if the fourth nerve is paralyzed, the patient, in accordance with the general law, carries his head bent downwards and inclined towards the sound side, the chin being directed towards the affected side. Diplopia only occurs in the lower portion of the visual field, so that the patient usually holds objects that he is examining above him and somewhat towards the sound side.

The fourth nerve is rarely paralyzed alone, it is probably not unfrequently affected in basilar meningitis, in association with other nerves, though I have never been able to satisfy myself that it was so in any case that I have seen. The conditions in such cases are exceedingly unfavorable to its detection. This paralysis is said to have occurred in tumors in the region of the corpora quadrigemina. In Nieden's case there was paralysis of this nerve alone, due to compression of its fibres by a cystic degeneration of the pineal gland.

The fourth nerve arises from a nucleus in the aqueduct of Sylvius, just behind that of the third nerve, and scarcely separated from it. Its fibres then ascend to the valve of Vienssens, cross over to the opposite side, and passing behind the corpora quadrigemina, wind forwards and downwards to the outer side of the crus. One would expect, therefore, in a limited unilateral lesion of the third and fourth nuclei, to meet with paralysis of the third on the same side, and of the fourth on the opposite side to the lesion. I believe, however, no such case has been as yet recorded.

PARALYSIS OF THE SIXTH NERVE.

The sixth nerve arises from the floor of the fourth ventricle, close to the seventh nucleus. Emerging at the lower border of the pons, it passes to the notch in the posterior clinoid process, to which it is closely fixed by the attachments of the tentorium. It then enters the cavernous sinus, and, winding round the outer side of the carotid artery, passes forwards in its floor to the sphenoidal fissure. The long and singular course of this nerve explains the frequency of its paralysis.

In a lesion of the pons on the right side conjugate deviation of the eyes to the left may be observed, with left hemiplegia. If the lower part of the pons be affected there will be paralysis of the right facial as well as of the right sixth nerve with the left hemiplegia. If the fibres of the sixth be affected below the nucleus of origin there will be simply internal strabismus, but no conjugate deviation. In one case of cerebellar tumor that I saw there was paralysis of the sixth nerve, due to the downward pressure of the growth, which was limited above by the unyielding tentorium. In fractures of the base of the skull in the middle fossa, paralysis of the sixth not unfrequently occurs, though perhaps not so often as facial paralysis.

OPHTHALMOPLEGIA.

This term has been applied to a progressive paralysis of the muscles of the eyes.

Ophthalmoplegia interna denotes paralysis of the internal muscles of the eye, and is almost certainly due to a progressive degenerative process in the most anterior parts of the two third nuclei, which control the function of accommodation and the variation in the size of the

pupil. If the disease extend backwards, ophthalmoplegia externa is developed, as the nuclei that govern the movements of the external muscles of the eye are involved. Not unfrequently the nuclei of other nerves are affected, especially the seventh and fifth. More commonly this ophthalmoplegia externa is developed without implication of the parts supplied by the ciliary nerves. Heubner states that the anterior part of the third nucleus, which governs the intrinsic muscles of the eye, has a different vascular supply to that of the posterior part, so that some explanation is afforded of this curious partial implication of the nucleus. The disease is obviously closely allied to bulbar paralysis and anterior poliomyelitis, differing only from them in its seat.

THE CONDITION OF THE PUPILS.

The actual size of the pupils has but little localizing value; they are usually contracted in lesions of the pons, and occasionally in cerebral hemorrhage. If the pupils are unequal, one may be in doubt which is the affected pupil and what the cause of the alteration in its size.

Myosis may occur from (1) spasm of the sphincter pupillæ, due to irritation of the fibres from the third that supply it; (2) or it may be due to paralysis of the sympathetic fibres that reach their destination by way of the Gasserian ganglion, the nasal and long ciliary nerves.

Mydriasis may occur from paralysis of the third nerve fibres, or irritation of the sympathetic fibres.

It must be remembered that if one pupil be widely dilated, the other will tend to contract, owing to the increased amount of light entering its fellow.

The condition of the accommodation is a valuable guide in many difficult cases, in deciding whether the third nerve fibres are paralyzed, irritated, or intact, as accommodation usually suffers with the pupil.

A sympathetic lesion, on the other hand, never affects the accommodation, and it is often associated with other signs suggestive of sympathetic affection. Mydriasis, slight enlargement of the palpebral opening, exophthalmos, and pallor on the same side, would point to sympathetic irritation. The reverse conditions are associated with sympathetic paralysis. Of course, if only the long ciliary nerves are affected, these concomitant affections would be absent.

Inequality of the pupils may arise from trivial irritations, toothache, or migraine, or may be the only indication of a partial paralysis of the third nerve, thus it is often seen in basal meningitis.

Reference has been already made to the course of the nerve fibres engaged in the pupillary light reflex, and its value in recognizing optic tract lesions. The centre for this reflex has been shown to occupy a position between that governing accommodation and that for convergence (Hensen and Völckers). The pupillary contraction that accompanies convergence and accommodation can, therefore, be easily explained. Now in some cases the light reflex is lost, although contraction of the pupil still occurs when accommodation and convergence are excited. This would suggest a lesion in the afferent fibres, from the optic nerve to the centre for the sphincter pupillæ, as a lesion limited to this centre alone could not occur. It will be remembered that the afferent (optic) fibres wind down in the wall of the third ventricle to this centre. Now Moeli has described a case in which just these fibres

were involved from a tumor in the anterior part of the third ventricle. The optic nerves and third nucleus were intact, and during life it was observed that the light reflex was absent without disturbance of vision.

Loss of the light reflex is one of the most constant symptoms of locomotor ataxy, and this case would lead one to look for some change in the same situation (E. Berger). An atrophy of the afferent fibres, similar to that which so commonly affects the visual part of the optic nerve, might easily occur and escape detection without careful microscopic examination, and it is quite possible that the part engaged in the pupillary reflex is even more prone to this affection than the visual part of the optic nerve.

In conclusion, let me acknowledge my obligation to Professor Swanzy, of Dublin; the frequency with which I have quoted his name indicates to but a small extent, my indebtedness to his admirable address on this subject to the Ophthalmological Society in 1888.

BIN-OCULAR GLIOMA OF THE RETINÆ.*

By R. S. Magee, M. D.,

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Glioma takes its origin from the connective tissue of the retina. It is slow of growth, remaining intraocular for one or two years. It is unaccompanied by any inflammatory symptoms, nor does it give any discomfort to the patient, and as it happens only in young children its growth may not be suspected until it has nearly filled the entire globe.

The peculiar look of the child, appearance of the cat's eye, due to the whitish tumor behind the pupillary space, may be the first sign of this formidable disease. It occurs only in children, especially between the second and fifth years, but it may develop sooner, or come on a little later, and will sometimes affect both eyes. I now recall a case sent by Dr. D. F. Longenecker, of Emporia, Kansas, in 1890, for consultation, with Glioma in the left eye of a little girl aged 9 years. (The doctor removed the eye and she is now wearing an artificial eye with no sign of the return of the growth.) It appears, if seen by the ophthalmoscope, as a white or slightly pinkish irregular tumor projecting into the vitreous; in the beginning it may appear as a bright spot of white color, which is soon surrounded by detached retina; but this appearance is seldom seen, as the patients are too young to notice any defect of vision. It is usually covered with some portion of the retina, and some of the retinal vessels can be seen passing over the growth. As the tumor develops glaucomatous symptoms manifest themselves, or purulent choroiditis may complicate the case.

DIFFERENTIAL DIAGNOSIS.

GLIOMA.	DETACHED RETINA.
1. Tumor appears solid and of a pinkish color,	1. The detached retina is in folds of a bluish color.
2. Does not vibrate when the eye is moved.	2. It is of a wavy trembling appearance, whenever the eye is moved.
3. It may be found in any portion of the eye.	3. It may develop in any portion of the retina, but it will eventually gravitate to the bottom of the eye-ball.
4. It develops slowly.	4. It is apt to come on suddenly and from traumatism.
5. Increased intraocular tension, iris pushed forward.	5. Eye-ball apt to be softer than normal.
6. Appears in all kinds of eyes.	6. Generally in myopes.
7. Always in children.	7. In adults usually.

*Read before the Northeastern Kansas Medical Society, June 21, 1892.

There is a condition which is frequently mistaken for Glioma, in which the vitreous becomes solid and opaque, probably the result of exudation from the choroid, it is termed pseudo-glioma from its resemblance to glioma. All sight is lost in the eye attacked, but no fear of a sympathetic inflammation. It is usually met with in young children, who have just recovered from an attack of meningitis, the inflammation having probably extended along the sheath of the optic nerve. In glioma the intraocular-tension is increased, the iris retains its lustre while in pseudo-glioma the iris looks muddy, and posterior synechia may be present, and as shrinking goes on the tension becomes diminished. The absence of the retinal vessels passing over it will help to distinguish it from glioma. Glioma results in impaired central vision and finally in complete blindness. It is one of the gravest affections of the eye we have to deal with, because even if the growth and the eye have been removed, it may recur sooner or later and cause the death of the patient.

The tumor, if allowed to grow, will fill up the eye-ball and press the lens and iris against the cornea, as the anterior chamber becomes very narrow; later on the tumor bursts through the eye-ball, either at the posterior pole in the region of the optic nerve or through the cornea. In the latter case, a bleeding, fungoid mass which eventually becomes very large, projecting from the eye-ball. This will give rise to frequent and extensive hemorrhages, and thus reduce the strength of the patient, or if the optic nerve becomes affected the disease may extend from here to the brain and result in death, or by metastasis to other organs, liver and spleen. The only way to deal with this trouble is to enucleate the eye, and this ought to be done as early as possible, because the tumor might penetrate the sclera and affect the orbital tissues which would have to be removed. As the optic nerve is early implicated as much of it as possible should be removed when the eye is enucleated.

CASE.—Bessie Luke, age 2 years, Talmage, Kansas, May 5, 1892. Total blindness in left eye and partial in the other.

History.—Has always been rather a delicate child. From birth and during the first few months of its life, was sick most of the time. Six weeks ago its mother first noticed that the child was losing its eye sight. Prior to that time could see as well, apparently, as the other members of the family. Has never complained of pain, by crying or other manifestations. During the past six weeks has required the constant attention of its mother, by reason of its not being able to see. The child, intellectually, seems bright, instantly notes the change from its mother's arms to that of a stranger. When taken to the piano, moves its fingers over the keys almost as skilfully and gracefully as an accomplished musician, or when spoken to, at once directs its face in the direction from which the sound came.

Family History.—Father and mother both living and well, an elder brother and sister are both the picture of health. There is no ancestral history of any malignant trouble existing. Examination with the ophthalmoscope shows

Glioma of both retinæ. In the left eye the tumor has attained such proportions that the vitreous chamber is entirely filled, total absence of the red reflex and the iris is pushed forward against the cornea. In the right it has filled about two-thirds of the vitreous chamber. I advised immediate enucleation.

Remarks.—1. Binocular-glioma is very rare. (In both eyes at the same time.) It usually appears in one, and recurs in the other later on.

2. If let go on, the tumor will rupture the cornea and become a fungous mass, which will constantly bleed from the exposed vessels, or it will rupture posteriorly and ascend by way of the sheath of the optic nerve to the brain.

3. It is a grave disease, metastatic tumors of the same character are very apt to appear in the spleen, or liver in distant parts of the body, ending the life of the patient sooner or later.

By the kindness of Dr. Steelsmith, of Abilene, Kansas, this case was referred to me for consultation and advice. After giving diagnosis and advising immediate enucleation, the case was returned to the doctor. Below I give his letter under date of May 26th:

"*Dear Doctor:*—I did the enucleation May 12. She went to her home the 21. There has been no discharge of pus up to the present time. I washed the lids and face with 1-1000 Bi-Chloride Sol., and after the enucleation syringed the orbit with 1-4000 Bi-Chloride Sol. and applied Bi-Chloride gauze.

On removing the left eye, I divided the globe to verify our diagnosis before removing the right. I found that the attachment of the growth was external to the optic disc. The mass was soft, and it was difficult to make out the full extent of attachment though it was close to the iris."

A microscopical examination of the tumor by Dr. Powell, of Topeka, in which he found the growth to be a Glioma containing the connective tissue stroma filled with the typical sarcoma cells.

THE RELATIVE IMPORTANCE OF ASTIGMATISM IN THE PRODUCTION OF ASTHENOPIA. CONTINUED.

By D. B. St. John Roosa, M. D., LL. D.,

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My article upon the above named subject published in the *Medical Record*[1] has received considerable attention from the profession. This is naturally a source of gratification. The article upon the same subject, in the last number of this Journal, by Dr. Risley, requires a response from me. It is written in a pre-eminently fair and friendly spirit, although it strongly controverts my position. I shall answer Dr. Risley as thoroughly as I may be able, and with the respect that is due a writer who has made valuable contributions to Ophthalmology, and to one who holds a deservedly high professional position.

My view that the moderately hypermetropic eye may be considered a normal one, is not at all new, or least it is a view that has for years been deduced from well known examinations, such as those by myself[2] in 1878, on adults, and by Ely, in 1879, on the refraction of the newly born. Ely was closely associated with me in private and hospital practice. Many of his observations were made under my own eye. He completely overthrew Jaeger's statistics, which were until then, everywhere accepted as genuine[3], and he showed that the infantile eye was in a large per centage of cases, 69 to 72 per cent. hyperopic. If the nature of things in these examinations had not prevented, that is, if the cornea could have been measured, and the vision tested with glasses, the percentage would have been larger, and 14 per cent. of emmetropia would not have been found. Since the publication of these papers I have constantly continued my investigations. I am about to publish the statistics of recent axaminations to show the frequency of astigmatism, and I am convinced that scarcely one per cent. of the human race has what I am ready to call an ideal, but not a normal eye. Such an eye may be a model, as Dr. Risley suggests, but as a frequent observation for scientific comparison with eyes having perfectly normal functions, it scarcely exists. The vast majority of educated people in the world, are doing their work without asthenopia and without convex glasses, and yet they are hypermetropic from one-half to two dioptres, or have

[1] March 26, 1892

[2] An examination under atropine of the refractive state of eye with normal vision. Transactions American Opthalmological Society,

[3] Archives of Ophthalmology, vol. ix, p. 29.

hyperopic corneal astigmatism from .25 to .50 dioptre or both hyperopic and hyperopic astigmatism. I do not think the ideal eye has any advantage over such an eye as this.

From what I read of Listing's and Helmholtz's diagrammatic eyes, I doubt if those who made these ideal eyes, ever thought of considering them as standard eyes, in the sense of being at all common in the human race. It is well known that Listing's eye differs in length from Helmholtz's, and that Helmholtz has presented two diagrammatic eyes, differing from each other,[1] one called Helmholtz's first, and the other the second Helmholtz eye. I have no objection to referring to the diagrammatic eyes as standard or models. I am simply contending that it scarcely exists. What has been thought to be it is but a hypermetropic eye of a low degree. Errors have been made because the examinations have not been thorough enough to be accurate. No one who accepts a weak convex spherical or convex cylindrical glass, when the accommodation is fully relaxed can be said to be emmetropic, and no examination is complete that is not made under atropia and with a measurement of the cornea by the ophthalmometer. It is begging the whole question to say that an eye that does not withstand these tests is an emmetropic eye. It neither conforms to the Listing or Helmholtz eye, or to the accepted definition of emmetropia.

Dr. Risley quotes Dr. Randall's paper[2] to prove that an emmetropic eye is the normal one, because it escapes injury in becoming more developed, while a hypermetropic eye being essentially a morbid one does not. I do not find this argument in Dr. Randall's paper. Randall merely states what has long since been proven, that the hypermetropic eye is by far the most common one, and furthermore he claims that the advance to emmetropia and myopia when it occurs, is not a healthy one. He says nothing to prove that emmetropia may not also become myopia. I find in his paper, no claim for emmetropia, that it has an intrinsic immunity from axial elongation. This latter point, so far as I am aware, has never been claimed or demonstrated, although Dr. Risley now believes it to be true, that emmetropia does possess such an immuntiy from what is usually a morbid process and not a development.

That there is in the very rare, and what I would like to call ideal eye, a fixity of condition, forbidding an advance into myopia, seems to me totally unsubstantiated. It cannot be proven until after a large number of such eyes are found, and then subjected to careful and repeated examinations during infancy and childhood. If any number of such eyes exist, there will be found to be no difference in the *quality*,

[1] Nagel, Graefe's Hand Buch, p. 202.

so to speak, or health of such an eye from that of the ordinary eye. What I venture to call the normal eye of the human race, is slightly hyperopic, and usually has a low degree of corneal astigmatism. The ideal eye only differs from this in degree, just as membranæ tympani and tympana and vestibule and cochlea, may differ slightly in anatomical construction and yet probably have the same hearing capacity, in different subjects.

In my article, I have been very careful not to say, that the correction of hypermetropia can *always* be neglected, when corneal astigmatism exists, but my large experience both in hospital and private practice, and in the hands of competent assistants, such as Dr. Frank N. Lewis, Dr. F. Van Fleet, Dr. Deynard and Dr. A. E. Davis, all more or less known in ophthalmological circles, has gradually led me to the conviction, on which all of us are now carefully working, that in a majority of cases, in low degrees of hypermetropia, it is sufficient to correct the astigmatism. So high an authority as Hasket Derby[1] has joined me in this opinion. If those who are now skeptical will try this method for three months, I am sure they will come to the same conclusion that we have, whether they believe a low degree of hypermetropia is, or is not, a normal condition.

From Dr. Risley's point of view as to the immunity of emmetropia to disease, he naturally resorts to a full correction of even moderate degrees of hypermetropia in all cases, so that emmetropia, a safer condition may be produced. The whole trend of recent investigation is against him in this, for it is known that all but one in a hundred of people who have no asthenopia and also are not myopic, either have hypermetropia or hypermetropic astigmatism or both combined to a low degree. Thousands of persons who have these defects, if we choose to call them so, never need glasses until they are presbyopic.

Having long since demonstrated the truth of the foregoing statements, I was in a position to accept the view that gradually dawned upon me, that the astigmatism was apt to be a more troublesome factor in causing asthenopia than hypermetropia alone. As to Dr. Risley's criticism on my *case iii*, I can only say that I have seen too many just such cases fully recover without glasses, to ever torment them with them, even for close work. As to wearing glasses for a distance, when the vision is already $\frac{20}{20}$, I have long since found their use unnecessary or even harmful, even when there is hypermetropia of 2. dioptres. With the view that hypermetropic eyes ought to be converted into emmetropic, my practice is wrong. Yet I have found it much better to order no glasses, except in rare cases of spasm, and when the patient has for a long time had a habit of wearing glasses, and suffers no inconvenience from the unnecessary correction, or when the visual power is not, for the distance, perfect or nearly so. I have taken away glasses from

[1] Boston Medical and Surgical Journal, June 1892.

many such patients to their great relief.

The value of the ophthalmometer will cease to be a question for argument, to those who will use it according to the rules deduced from practice, and plainly laid down by *Javal*, who has spent two decades of his life, with the aid of many excellent observers, in perfecting the Helmholtz original. Observing these rules, the "vexing question" of the total astigmatism of the dioptic apparatus, is answered, and an objective examination is substituted for the subjective methods of the use of the ophthalmoscope, retinoscopy and the answers of a patient. It is amazing indeed, after practical experience of years has shown just how much may be allowed for lenticular astigmatism, which Donders himself had no great difficulty with, then it should still be said, that the ophthalmometric examinations cannot be a substitute for the subjective methods I have just enumerated. As to the difficulty of determining the axial refraction after the astigmatism has been settled, it is purely imaginary. If V=$\frac{20}{20}$ as it does in a large class of asthenopes, do we not know that we are dealing with hypermetropia and not myopia? If there be a considerable degree of myopia or hyperopia is it at all difficult to determine the fact? It is only in the comparatively rare cases of mixed astigmatism, that the ophthalmometer does not make a short and sure road to a complete determination of the refraction. In all cases, it is an assistant of no mean value. Some of its opponents object to it because it will not accomplish more than the most enthusiastic of its friends or its inventors claim for it. It is only an instrument. It must have a trained observer behind it. A sextant for taking marine observations can never be of use, nor avail to sail a vessel without an experienced captain. Just as the nautical instrument gives the mariner his latitude and longitude, does the ophthalmometer show the degree and axis of the corneal astigmatism, if any exist. How much importance this may be to the observer he must determine for himself. I find the information thus furnished the key to the knowledge of the refractive condition. A recent reviewer[1] intimates that the advocates of the ophthalmometer are satisfied with a lower standard of accuracy in refractive work than those who dispensed with it. Not at all. We claim that it assists to greater accuracy, although work by its aid is much more rapid than without it. There are many venturesome fishing smacks along the coast of New England and Newfoundland, that dispense with compass and sextant. They that may find out where they are, and get safely home, without their aid, but I have yet to learn that the seaman who avails himself of and relies upon the instruments that tell him his exact situation, is less accurate or painstaking, or that he has a lower standard of the art of navigation.

[1] Ophthalmic Review, July, 1891, p. 208.

AN AURAL REFLEX.

By J. A. Maloney, M. D.,

of Washington, D. C.

The aural reflex has been handed down by the earliest writers, but has been confined to "ear cough" or other reflex phenomena, such as tickling in the throat, a desire to swallow, tingling in the tongue, sneezing and vomiting, but the foregoing have been produced by foreign bodies, insertion of speculum or manipulations during treatment, whereby the *external ear* becomes the factor in the results before mentioned. In the cases to which I am about to refer, the cause must be different from the foregoing, because no mechanical stimulation due to contact with the external ear took place.

When quite young I remember standing beside a piano while a young lady was playing, and I noticed that at times there would be forced expiratory efforts of respiration, I could not help noticing this, it made an impression upon me without at that time, an effort to ascertain the cause.

Later on I again noticed it in another performer, and this circumstance, I presume strengthened the impression so that it remained until I had become an investigator in physiological acoustics, when another case gave me an opportunity to make a test which throws some little light upon the subject. Upon noticing this peculiarity in the last case, I watched intensely for the tone, or tones, but the playing was too rapid, and not wishing to inform the player of my purpose, because the knowledge might have overcome the phenomenon.

I requested the performer to play the same air several times, leaving the impression that it was a favorite, in every instance there was at times the same forced expiratory effort. Then I asked the performer to allow me to place cotton in each ear, that I might notice the effect it might have upon the rendition, so far as touch was concerned. Thereupon I placed three or four pledgets of cotton, pressed flat before insertion, and endeavored to leave a space between each, until satisfied that a low voice close to meatus, could not be made out clearly. I requested the party to play by sign, this was repeated several times, but there was not the slightest sign of forced expiration.

This test afforded me proof that it was not due to the tactile sense, but a true auditory antecedent effect. Later another case came to my knowledge, I applied the same tests with same results,

"Ear Cough" is said to be due to irritation of the auricular branch of the pneumogastric nerve, distributed to the auditory canal, is reflect-

ed to the motor fibres of the superior laryngeal nerve, also a branch of the pneumogastric. This induces contraction of the crico-thyroid muscle, which manifests itself as coughing, and in some instances vomiting[1]. In the phenomenon observed by me, I think it reasonable to suppose that it is due to irritation of tensor tympani nerve, and reflected to the vagus through the otic ganglion, thence to the non-striped muscle of the entire bronchial system, which offers resistance to increased pressure within the air passages, as in *forced expiration*, singing, speaking, blowing. The vagus being the motor nerve for these fibres.

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[1] See a Treatise on the Ear, Burnett, p. 312.

NEUROSES OF PHARYNX AND LARYNX CAUSED BY HYPERTROPHIED FOLLICLES AT THE BASE OF THE TONGUE.*

By W. L. Dayton, M. D.,

OPHTHALMIC SURGEON TO ST. ELIZABETH HOSPITAL; OCULIST TO B. & M. RAILROAD, ETC. LINCOLN, NEB.

Gentlemen: In presenting this subject to you I do not presume to bring forward anything particularly new in the field of neuroses of the pharynx, but I do desire that you carefully look into the subject, and judge whether I have over-estimated the importance of a radical treatment for the removal of lingual varix and enlarged follicles at the base of the tongue, as a cure for the many reflexes which I shall briefly mention in this paper.

You will all doubtless agree that we have several forms of Neuroses from follicular pharyngitis as aphonia after excessive use of the voice; short, hacking cough, desire to constantly swallow some imaginary body, all due to irritation of the superior laryngeal nerves. To remove the cause we destroy the hypertrophied follicles.

Neuroses of the pharynx are quite frequent, occurring as symptoms or as complications of various pharyngeal diseases.

Anything that may act as an irritant, or by pressure upon a nerve trunk or its periphery may give rise to a reflex, which may manifest itself in one or many symptoms, either functional, physical or both.

Parasthesia has been a prominent symptom in the majority of cases I have seen, each patient describing minutely the peculiar sensation they have in the throat, such as a "foreign body," "a pin," "hair," the presence of a lump in the throat (globus hystericus). We also find present spasmodic cough, spasm of the larynx and pharynx, dysphagia, and as has been described to me by one, "a feeling at times as if a band was drawn tightly around the throat."

We assume that these reflexes are frequently due to the mechanical irritation or pressure upon the sensory nerves by these hypertrophied mucous follicles or lingual varix. We find this portion of the tongue and adjacent structures richly supplied with both sensory and motor nerves. the glosso-pharyngeal, the superior and re-current laryngeal branches of the pneumo-gastric, and these closely anastomosing with the sympathetic.

*Read before the Missouri Valley Medical Society at Lincoln, Neb.

Physiologists teach us that in order to have a true reflex phenomena we must have

(1) A sensitive nerve fibre connected

(2) With a central nervous cell or mechanism which

(3) In turn connects with some motor fibre supplying some motor organ.

In these cases we have every detail necessary to produce a true reflex phenomena.

I herewith present a few cases illustrative of the different symptoms found in hypertrophied follicles and lingual varix.

CASE I.—Mrs. M., age 49. short and stout, apparently enjoying excellent health, consulted me regarding her throat, complaining that at times, upon attempting to swallow even fluids, she would be seized with a paroxysm of choking, which frequently was so violent that she could scarcely breathe. She came to me in dire distress, bemoaning her condition, and confident that if she did not have relief she would some time choke to death. While in my consulting room she was suddenly seized with a paroxysm of choking. Her breathing became rapid, and with the peculiar stridor of laryngismus stridulus; in her effort to breathe easier, she grasped the collar of her dress and tore it apart; great drops of perspiration stood out upon her face; the noisy breathing continued, and her countenance bespoke the fright she was experiencing.

I finally concluded I *must* do something, so I sternly ordered her to give me her tongue, which I seized in the napkin between my fingers and thumb and drew it well forward, assuring her at the same that the paroxysm would cease, which it did as if by magic.

I then made a laryngoscopic examination, found larynx and vocal cords slightly congested; at the base of the tongue I found an enormous lingual varix, the circumvallate papillae very much enlarged and numerous large mucous follicles posterior to the papillæ.

On obtaining the history of this patient, I found that she was passing through the menopause; she was exceedingly nervous, inclined to be melancholic; she had recently lost her husband, which, together with her fear of choking to death in one of these paroxysms, had reduced her nervous energy far below the standard.

I cauterized the larger vessels and several of the follicles at the first sitting, kept her in the city for fear the swelling or the sloughs from the cauterization might provoke more, and perhaps serious paroxysms. On the third day I removed the sloughs, and on the fifth day I cauterized other follicles and allowed her to go home, telling her she could eat liquid foods without fear. This treatment was followed up for two or three months, seeing the patient twice a week. During the treatment she had several paroxysms, but with less severity. After six weeks had elapsed without an attack, I consented to her going to California to live, and to the present time she has had no return of the symptoms. In addition to the cauterization I gave her Strych. Sulph. one sixtieth, t. d., and a saline aperient to use each night.

CASE II.—Miss B., age 29, school teacher, complains of feeling foreign body in throat, keeps up an incessant coughing, so much so that she was compelled

to give up her school. She had frequent paroxysms of an asthmatic character, when her breathing was hurried, and with marked stridor.

Nothing abnormal found in larynx or pharnyx excepting hypertrophied follicles at the base of the tongue, hence I advised cauterization. I kept her under treatment two months, cauterizing once a week. When she was discharged her cough had almost entirely ceased; the irritation from an apparent foreign body had disappeared; her general health had improved very much.

CASE III.—Mrs. M., age 32, a stout, robust woman. Complains of having spells like croup, at which times she feels as if she would choke to death. The paroxysms come on suddenly, and more frequently at night; has a constant desire to clear her throat.

Upon examination I find a hypertrophic rhinitis and lingual varix, with enlarged follicles at base of tongue. Some post-nasal catarrh. I advised cauterization of both nose and tongue.

This patient was under treatment three months, her irregular visits prolonging treatment; during treatment she had one attack, since when she has been entirely free from them.

CASE IV.—Mrs. S., age 34 M.; inclined to be frail; general health fair; complains of having foreign body in her throat on left side; attempts to locate it just below the left tonsil: does not sleep well, greater part of the time has a feeling as of a lump in her throat, (globus hystericus). Laryngoscopic examination reveals nothing abnormal excepting the hypertrophied follicles at base of tongue. I recommended cauterization. Gave her Brom. Sod. et Pot. aa. gr. x 4 t d. Under treatment one month, when she declared she was entirely free from the symptoms for which she consulted me.

The above cases from my case book describe the many symptoms characteristic of the presence of hypertrophied follicles, lingual varix, or both.

The enlarged follicles in this region are no doubt in a great measure due to the increased blood supply from the varicosed vessels in this region, and they in turn are due to a vaso-motor paresis, causing venous congestion; among the under-lying constitutional causes are a general varicose diathesis, torpidity of the liver, constipation and dyspepsia—in fact, conditions implying a weakness of the vaso-motor system.

We can readily explain some of these reflex symptoms as the laryngeal and pharyngeal tenesmus, as caused by pressure or by mechanical irritation of the follicles or varix upon some filament of the superior and recurrent laryngeal nerves.

The presence of an apparent foreign body is due to mechanical irritation of the enlarged follicles, for when they are obliterated the sensation disappears.

The choking upon taking food may be caused by the epiglottis becoming actually imprisoned among the follicles, and allowing some of the food to enter the larynx, causing a spasm of the glottis.

In treatment of this condition I have discarded chromic acid and

other chemical caustics as unreliable, and even dangerous. I rely solely upon the galvano-cautery.

My method of cauterization does not differ from others, save, possibly, I do not attempt to do too much at one sitting; care must be exercised that the heated electrode does not touch the epiglottis, or there may occur, as in one of my cases, an oedema of the epiglottis, the presence of which may impress upon the nervous patient, and the Doctor as well, the fact that they have a serious throat lesion to deal with.

In cauterization of the follicles I use the spiral tipped electrode, and the double-edged knife electrode in lingual varix.

The question may arise as to the moral effect local treatment may have by diverting the mind of the patient. It is true it may have a secondary effect, but the removal of the offending cause primarily effects the cure.

I do not desire to ride a "hobby," but I do insist that when a patient comes to us with any of these reflex symptoms, that we must not be satisfied if we find a follicular pharyngitis or a hypertropic rhinitis, but carefully examine the base of the tongue for hypertrophied follicles or lingual varix.

1203 O Street.

PAPER ON "ANÆSTHESIA AND ANÆSTHETICS."*

By Laurence Turnbull, M. D., Ph. G.,

of Philadelphia.

Mr. President, and Gentlemen of Section of Pharmacology and Therapeutics:—I feel honored by your polite invitation to address you on the important subject of Anæsthetics.

It has been with me almost a constant study and object of experimentation for the last twenty years and more, especially the collecting of statistics, ever since the interesting report of the Hyderabad Commission. Immediately on the full report being made public, I carefully collected all the deaths from every form of Anæsthetics, more especially chloroform and ether, and to make a very reliable report and free from any bias, my friend, Dr. J. Melvin Lamb, of Washington, D. C., of the Surgeon General's Office, at my request employed clerks, and gave his own time also, to extract from every journal both American and European, the desired information.

The results were presented before the section of Surgery of the American Medical Association for 1890, and 1891, and published in book form. The conclusions at which Dr. Lamb and I arrived were, that from Ether, there were fewer deaths than from Chloroform, and that it was necessary to watch both respiration and heart. Again a Committee of your valuable Association was appointed to collect from hospitals careful records of all the cases in which an anæsthetic was employed, with other important matters, relating to this subject.

A modification of your instructions was printed by me, and again Dr. Lamb had them sent out from Washington, one hundred and eighty in number, only to those hospitals in the United States, which were stated to contain fifty beds. Stamped envelopes were sent in every case for returns to questions, but the numbers so returned were comparatively few for the numbers sent.

I subsequently found out that but in few hospitals were there any records kept, and these not only in small hospitals, but the case in many of the largest hospitals in Philadelphia, and other large cities.

This information was gained by a second series of personal letters,

*Read before the Section of Pharmacology and Therapeutics at the Sixtieth Annual Meeting of the British Medical Association, at Nottingham, England, July 29th. 1892.

sent from Philadelphia by the local secretary of the Committee, Dr. Joseph Leidy, Jr.

I submit my brief report and an appendix from the John Hopkin's Hospital of Baltimore:

The total number of administrations of each anæsthetic from January, 1892, to May 14th, 1892; Ether 1500; Chloroform 298; A. C. E. 100.

The number of cases in which death has occurred during or shortly after anæsthetisation, Chloroform, 1; Ether 3; A. C. E. 1.

The number of cases in which dangerous symptoms have occurred:—Ether 2; Chloroform 9; A. C. E. 1.

Opinion formed from personal experience as to the relation of the various anæsthets used *is divided, the majority think Ether, Chloroform and A. C. E. equally safe.*

The best method and manner of administering them:—*Cone, Various inhalers and napkins.*

When to use one and when the other. *Ether in weak persons, Chloroform in strong or when brain and kidney disease exists.*

The most effective methods of restoring patients threatened with death from anæsthetics. *Inversion, head lower than body, stimulants hypodermatically; alcohol, atropine.*

Twenty-five per cent. of students are taught to administer anæsthetics practically; the remainder theoretically.

I have by invitation of your sub-committee, visited the Royal Infirmary of Edinburgh and had the opportunity of seeing the free use of chloroform in the lecture room, in three operations by Prof. Chiene, and in one prolonged operation by Prof. Annandale, (Monday, July 11th, 1892, at 11:30 A. M., Royal Infirmary Clinic of Prof. Chiene.)

CASE I.—Under chloroform. *History*: A woman, aged 42, who had an amputation of the leg and foot (Mackenzie's Modification of Syme's Operation. Beautiful stump.)

In spite of every measure applied to relieve a real or imaginary pain, still continued, a new operation was suggested and performed, dividing and removing a section of anterior and posterior tibial nerves under chloroform above the cicatrix. (Prior to all operations in the Infirmary, the heart, lungs and kidneys are examined. In the morning before the operation, nothing is given to the patient, but a cup of beef tea.) If there has been constipation, a purge is given the evening before. The chloroform was administered on a towel by a senior student, under instructions for six weeks. The patient took the chloroform, and the operation was successful.

CASE 2.—A young girl with sclerosed os calcis with an opening into the same, The bone was suspected of being tuberculous, and a canal-like opening was made into the bone with great difficulty, but with entire success.

CASE 3.—A middle-aged man by occupation a sailor, with a permanent stricture for which a perineal section was proposed. Soon after attempting the use of chloroform he resisted, but was held by the assistants, when he suddenly passed into a cataleptic state, and it was feared he had been an epileptic, but this was denied. His chest had become rigid and fixed, and the chloroformist and others became alarmed, but Prof. Chiene had the chloroform removed peremptorily twice, but ultimately the operation was perform-

ed. Prof. Chiene had always found difficulty in this class of cases, and terms them alcoholists. The Professor desired to know from me what *we* did in such cases. I stated that we removed the chloroform and substituted ether. He then gave the students some very careful directions and warnings not to lose their heads under such circumstances, and for the chloroformist never to become interested in the operation, or to attempt to control the patient, his whole duty being with the administration of chloroform.

Prof. Chiene's views published for the students are as follows:

CHLOROFORM.

A. Action of chloroform is (1st) stimulant, (2nd) sedative.
(a) Abolishes sensation,
(b) Abolishes power of motion and reflex action.
(c) Stops respiration.
(d) Stops heart's action.
(e) Kills patient.

(B) METHOD OF ADMINISTRATION.

Towel versus Engine. Brains versus Valves.

(1) Give all your attention,
(2) Have your artery-forceps ready.
(3) Watch the breathing.
(4) Watch patient's appearance.

How do you know when the patient has had enough.

(a) Insensibility of conjunctiva.
(b) Muscular relaxation.
(c) Local insensibility of part to be operated upon.

C.
(a) Tongue falling back.
(b) Glottis closing.
(c) Fainting,
(d) Vomiting.
(e) Respiration and heart's action stopped.

Royal Infirmary, Clinic of Prof. Annandale. Before entering the clinical amphitheatre, Prof. Annandale politely showed me the Junker's Regulating Inhaler, modified by Krohne and Sesemann, of Edinburgh. The Prof. had employed this apparatus successfully in private cases at times, but found two objections to its use. If the bottle containing chloroform was full and pressure made suddenly on the air reservoir, pure chloroform was injected into the throat and chest of the patient. At times the valves would become charged with frozen chloroform from the great reduction of temperature. Prof. Annandale then introduced me to his assistant, Dr. C. A. Sturrock, who administers the chloroform exclusively for the Professor's term of six months, always gives it in an adjoining room. Dr. Sturrock finds that it requires from seven to eight minutes to place a young person under the full influence of chloroform. The older the person the more time is required, say from 15 to 20 minutes.

In a recent case he gave a man of 28 years, six ounces of chloroform, and yet he was not fully under its influence. (Dr. Sturrock also employs the open towel and commences with about (f ʒ ij) from a graduated bottle.) The operation was for the removal of the infra-orbital nerve and Meckel's ganglion for tri-facial neuralgia. Great tendency to retching and free vomiting, stated to be owing to a certain amount of brandy given before the operation, was checked by giving more chloroform. The operation was a very prolonged one, being 70 minutes in duration, and required 5 ounces of chloroform, several arteries were tied, but the oozing of blood was very annoying to the operator. The patient continued fully under the influence of the anæsthetic, due to the care and successful manner in which it was administered. It was noted that the artery-forceps were in the belt of the administrator's coat.

THE TOXIC AMBLYOPIAS; THEIR SYMPTOMS, VARIETIES, PATHOLOGY AND TREATMENT.

By Casey A. Wood, C. M., M. D.,

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CHICAGO.

(*Continued from Page* 120.)

ETIOLOGY OF TOXIC AMBLYOPIA—Continued.

ACONITE—CHLORAL AND ITS HYDRATE—PILOCARPINE AND JABORANDI EXTRACTS—ESERINE AND CALABAR BEAN—OSMIC ACID—SANTONIN—PICRIC ACID—DIGITALIS—TEA—CHOCOLATE—GELSEMIUM—ANILINE— EMANATIONS FROM PITCH AND COAL—ARSENIC—NAPTHALINE—POTASSIC BROMIDE—METHYLATED SPIRITS—ERGOT, AMYL NITRITE NITROUS OXIDE—NITROBENZOL—MERCURIAL COMPOUNDS—SILVER SALTS.

Aconite.—This drug is rarely the cause of amblyopia. The best example of it is that recorded by O'Brien (38) where mydriasis and twitching of the lids followed a poisonous dose.

Chloral and its hydrate indulged in as a habit apart from its legitimate use in medicine, is capable of rendering the eye amblyopic. Some difference of opinion exists as to the exact symptoms, a discrepancy which will receive attention later on.

Pilocarpine and Jaborandi extracts. These drugs as well as eserine and calabar bean produce myosis and spasm of accommodation when employed locally, but I have been unable to find the record of any case where these symptoms resulted from their general use.

Osmic Acid.—The only account I have been able to find of this agent producing amblyopia is that given by Noyes (39) of New York. It is premised that the metal osmium "heated in air is burned to an oxide and exhales poisonous fumes, having an odor something like chlorine."

Dr. P., an assistant in a chemical labratory was heating osmium and iridum in a crucible. Although aware of the poisonous properties of the fumes he took out a bit of the former metal with his forceps and put it near the left eye for inspection. Immediately he was struck with a sharp pain and ten minutes afterwards saw Dr. Noyes. There was great blepharospasm, photophobia and bulbar pain. Conjunctiva and sclera injected; lachrymation profuse. Pupil of normal size and activity. Vision reduced to one third and patient reads only Jäger 3. All objects looked dim. No paresis of accommodation. Fundus normal (except perhaps a pink papilla) and media clear. The symptoms remained for one day, after which the eye resumed its normal function.

Dr. P., as well as Dr. Noyes, thinks that the toxic influence was mainly exerted upon the retina.

SANTONIN.—This drug, together with *picric acid*, *amyl nitrite* and occasionally *digitalis*, might be grouped together as good examples of poisons producing colored vision—generally xanthopsia or yellow vision. Various theories have been put forward to account for these colored disturbances. Helmholtz thinks they are the result of the direct action of the drugs on the nervous elements of the retina; these are first excited and then exhausted and the eye becomes violet—blind. On the other hand it has been claimed that they are due to the optic media being tinged yellow or green, as the urine is in such cases. The aberration of the color sense was first observed by Hufeland (40) in 1806 and is probably the most marked subjective symptom in santonin poisoning. It has been observed that the usual xanthopsia is often preceded by a violet hue over all objects.

De Martigny (41) in a few cases found the yellow sight intermit and pass into other colors. A dose of 0.3 grm. was followed by xanthopsia; an additional 0.6 grm. dose brought on erythopsia or red vision which became orange and finally yellow. In another patient there was green vision and in one case, blue. We are consequently inclined to believe that the color symptoms are the result of nervous irritation and are not due to light passing through colored media. Dunoyer (42) mentions a case where the patient took .05 grm. santonin. This was immediately followed by aphasia, and yellow vision, both of which disappeared after four hours. This and many other examples show the transitory character of the colored vision.

PICRIC ACID.—There are very few instances of amblyopia due to this cause. Hilbert's (43) experiments upon himself furnish symptoms similar to those resulting from santonin poisoning. Two hours after taking 0.3 grm. of picric acid he had slight yellow vision which lasted two hours, after which blue and violet were not distinguished. This was not, he thinks, due to a yellow coloration of the optic media, but to the irritant effects of the poison on the cerebral centers.

DIGITALIS.—A single example of this rare cause of amblyopia will suffice. The case is recorded by Ieanton (44). A patient took 90 grms. of tinct. digitalis. Nausea and vomiting followed with mydriasis and cloudy vision. For two days there was also xanthopsia.

TEA.—Theoretically one would expect that the abuse of this stimulant-narcotic would result in a toxic amblyopia of the alcohol type, but although suspected by some authorities, there are not many well defined instances of its amblyopic influences. Very contradictory amblyopic symptoms are assigned by various observers to this agent. Wolfe (45) mentions a case in which there was fluidity of the vitreous and floating pigment particles, due, he thinks, to over indulgence in tea. Berry (46) also thinks that excessive tea drinking causes ocular symptoms. Visual disturbances from protracted tea-tasting, in a Rus-

sian, is reported in the London *Lancet* for 1887.

CHOCOLATE.—It is doubtful whether this agent is capable of producing a true amblyopia, although such an early writer as Hocken[1] claims that it is.

GELSEMIUM.—This is an extremely rare cause of amblyopia. Parckinson (47) relates a case in which ptosis and diplopia resulted from the administration of *liquor gelsemii*.

ANILINE.—This thin, colorless, oily fluid of an agreeable odor is the base of the many beautiful dyes of commerce which bears its name. Pure aniline is probably more poisonous than its colored salts, (*e. g.*, fuchsine), and the workmen in dye factories often complain of temporary headache, photophobia, *muscæ* and prostration as well as of occasionally amblyopic symptoms. Galezowski (48) attributes most of these symptoms to accommodation paresis.

EMANATIONS FROM PITCH AND COAL.—These contain a number of toxic agents which may seriously impair the vision of those employed in mining, preparing and distributing such commercial products. The fine powder fills their lungs, chokes their sweat ducts, is ground into their hair and clothing and impregnates every cavity of the body having direct communication with the outside air. The poisonous emanations are mainly *phenol*, *aniline* and its products, as well as *volatile resinoids* and traces of essential oil.

ARSENIC.—Makers of paris green, painters, wall paper hangers, as well as those persons who take the drug for medicinal or cosmetic purposes, are liable to suffer visual disturbances apart from the conjunctival hyperæmia, and eczema of the lids which often result from long continued exposure to its influence. Hutchinson (49) thinks that vitreous opacities may follow a too-long course of arsenic. It is also asserted (50) that a medicinal course of arsenic has caused retrobulbar neuritis.

NAPHTHALINE.—This is a white, shining, crystalline substance that fuses at 176 degrees F. and is one of the products of coal tar distillation. The question whether its internal exhibition can result in the formation of cataract, as it certainly does in the rabbit and other lower animals, has formed a subject for a good deal of discussion. The latest and one of the best of these papers is by Prof. H. Magnus (51) to which I would refer the reader.

During the past year the House Surgeon at the Alexian Hospital, Dr. Burton, has carefully examined a large number of typhoid patients (treated with maximum daily doses of naphthaline for several weeks) but in none of them did the lens, with a fully dilated pupil, show the least trace of cataract.

[1] l. c. p. 15.

Potassic Bromide is very seldom a cause of visual disturbances, although epileptics and others take the drug in large quantities and for long periods.

Notwithstanding the assertion of Laborde (52) that conjunctival hyperæmia is the only ocular symptom caused by this drug, several recorded cases prove the contrary.

Perhaps the best marked instance is that related by Rubel (53) whose patient took 10–15 grms. (150–235 grains) daily. He was an epileptic, twenty-three years old and a spirit drinker. One day he noticed that he was blind. The ophthalmoscope showed pallor of both discs and contraction of the retinal arteries. The bromide was stopped and in five weeks vision returned. Subsequent doses brought back the visual disturbance.

Gifford (54) relates the following case:

H. T., æt. 15, strong boy, had for five years convulsions. Took daily 40—70 grs. of KBr., for a long period and developed in L. E. a central keratitis not controlled by ordinary remedies. Healed with opacity on stopping KBr. Shortly after convulsions returned and the bromide was again given. The R. E. became again affected by a branching keratitis similar to that of the other eye and of the same obstinate character.

Methylated Spirits. There are at least several well authenticated cases where the vision has been affected by indulgence in this strong smelling liquid. Although the admixture of ordinary ethylic with methyl alcohol, to produce the "methylated spirits" of the arts, was expected to prevent its use as a beverage it is well known that the thirst for alcohol has often overcome the repugnance which even the well-seasoned nose and stomach of the drunkard must have for this nauseous mixture. The poisonous effects were, in the published cases, due to the methylic alcohol. In D. Mengin's case there was complete blindness in twenty-four hours after intoxication from this drug.

Nitrobenzol.—This is an indirect coal tar product—an oily, yellowish, volatile and intensely sweet liquid with an odor like that of bitter almonds. Under the name "artificial oil of bitter almonds," it is the common source of aniline and is also employed for scenting soaps and even for flavoring confectionery and articles of diet. In factories where it is made workmen often suffer from toxic symptoms. Nitrobenzol is partly converted into aniline in the system and has been found in the blood after death. Litten (55) gives the following interesting description of a case of poisoning from it.

Patient comatose. The skin and as much of the mucous membrane as could be seen were colored from blue to gray blue. The expired air and vomited matters had an intense smell like bitter almonds. The urine had the same smell and was of a deep violet color. Antidote, ether *sub cutem* and numerous mustard plasters. Fundus an intense violet. Not only the retina, but the papilla, arteries and veins were

colored the same tint and looked as if stained with ink. The only difference between the vessels was in their caliber; the veins looked fuller than normal. There were some small hemorrhages in the neighborhood of the latter. Later it was found vision was normal. There were no color disturbances; white had no admixture of other colors. The above appearances persisted for three days after the poisoning.

Mercurial Compounds.—Workers in mercury, especially calomel makers and those using amalgams of tin and mercury for "silvering" mirrors, are liable to have ocular troubles which probably result from the absorption of the metal or its salts through the skin and lungs. The extensive employment in medicine of mercurial preparations would furnish a long list of amblyopic patients if these agents had a special predilection for the ocular structures. That mercurial amblyopia is very rare proves the contrary. In former years when mercury was usually pushed so as to produce its toxic effects, the optic nerve did certainly suffer to a much greater extent than it does in more modern times. Himly, (56), for instance. gives a place in his work to *amaurosis mercurialis*. Leber (57) does not think that the case for mercury is well grounded. Galezowski[1] reports an example of optic atrophy and Square (58) one of optic neuritis, ascribed to the toxic action of mercurial salts.

Silver Salts.—These produce, among the other symptoms of argyria, an amblyopia closely resembling that of lead (Gowers) but cases are rare, and since the internal administration of silver compounds is nowadays extremely uncommon, cases of weakened vision from these drugs are practically unknown. Bresgen (59) describes a case of visual disturbance caused by nitrate of silver, but Uhthoff does not think that it was a genuine case of toxic amblyopia. Rumer (60) found deposited in the sclerotic sheath of the optic nerve small, round globules of metallic silver.

Ergot, Amyl Nitrite and Nitrous Oxide.—It has been proved to a demonstration that the exhibition of these drugs may produce decided effects upon vision. This is due to alterations in the nutrition of the retina and is dependant upon the varying amount of blood admitted into the central artery. In the case of ergot, as might be expected, the caliber of the arteries is reduced, the capillary tint becomes lighter and the veins are not so large. Amyl nitrite, on the other hand, produces an active hyperæmia—the arteries being notably enlarged—an effect lasting only while the flushing of the neck and face continues. Nitrous oxide, when inhaled, produces upon the retinal circulation effects similar to those brought about by amyl nitrite, but they are of longer duration.

[1] l. c. p. 141.

BIBLIOGRAPHY.

38. F. H. O'Brien. A case of poisoning from aconite. *New York Med. Record*, p. 128, 1887.
39. Noyes. Amblyopia produced by Osmic Acid. *Trans. Am. Oph. Soc.*, 1866, p. 34.
40. Blyth. On poisons, 1884, p. 423.
41. De Martigny. *Gazette des Hôpitaux*, 1860.
42. Dunoyer. Aphasie transitoire toxique. *Gazette Medicale de Paris*, No. 39, 1885.
43. R. Hilbert. Uber Xanthopie verursacht durch Pikrinsäure. *Centralb. für pkt. Augenheilkunde.* März, 1885 S. 70.
44. Jeanton. Empoisonement avec teinture de digitale. *Gazette des Hôpitaux.* Nr. 56, p. 441, 1883.
45. Wolfe. Injurious effects of tea-drinking upon the nutrition of the eye. *Br. Medical Journal*, Aug. 1879.
46. Berry. *Trans. Oph. Soc'y. United Kingdom*, vii. 91.
47. C. H. W. Parckinson. Ptosis and diplopia from liquor gelsemii. *Br. Medical Journal*, ii., 1883, p. 323.
48. Galezowski. Des Amblyopies et des amauroses toxiques, p. 101.
49. *Vide Sajous' Annual*, 1890, iv., B. 116.
50. Neuritis retrobulbaris nach Arsenikgebrauch. Zehender's *Monatsbl. für Augenheilkunde*, Mai, 1891, p. 181.
51. Magnus. *Graefe's Archiv für Ophthalmologie*, Bd, 36, 4.
52. Laborde. *Archives de Physiologie*, Mai, 1868.
53. Rubel. Bromkaliamaurose. *Centralbl für pkt. Augenheilk*, Oct., 1884.
54. H. Gifford. Affections of the cornea following administration of the bromides, *Am. Journal of Ophthalmology*, 1890, p. 245.
55. M. Litten. Vergiftung durch Anilin verunreinigtes Nitrobenzol, *Centralbl. für pkt. Augenheilk*, April, 1891, p. 118.
56. Himly. Krankheiten und Misbildungen des Auges, Bd. 2, S. 422, 1843.
57. Leber. Graefe und Saemisch, Handbuch, Bd. v., 889.
58. Square. *London Oph. Hospital Reports*, Vol. vi., p. 54.
59. Bresgen. Vergiftung durch Argent. nitricum. *Berlin klin. Wochenschrift*, 1872, p. 72.
60. Rumer; quoted in Gower's Medical Ophthalmoscopy, p. 279.

(*To be continued.*)

GLIOMA OF THE OPTIC NERVE.

EXOPHTHALMOS—ENUCLEATION—DEATH—AN INTERESTING AUTOPSY.

By P. D. Keyser, M D.,

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On June 25th, 1891, my friend Dr. D. J. Langton, of Shenandoah, Pa., sent to my clinic at the Wills Eye Hospital in this city, Linda McK., æt 8, with exophthalmos R. E. The general physical condition of the little girl appeared good and she was well developed, but at no time did she seem to be possessed of normal intelligence. So much so that ophthalmoscopic examination was hardly to be made. She would not hold the R. E. still, but the fundus could be illuminated after lids were held open, and what view could be caught, showed enlarged retinal vessels with a marked swelling of the disc. Vision nil.

The L. E. she rotated firmly and deeply in to the inner canthus so that no view or illumination could be had. No vision could be discovered in the eye.

The lack of normal intelligence was denied by her father who accompanied her, until after the development in the autopsy, when he admitted that he had noticed this condition for some time, say from about the 4th year. The history of the case as far as I could get from him, is that when she was born, her eyes looked well and appeared as all other babies do. They were bright and of a dark blue color, and she seemed to have sight up to about four or five months old, when it began to fail, which was supposed to be caused by a scratch of a cat which she received at that time. The R. E. began to project more than the other, and continued slowly increasing.

When brought to my clinic the ball of the eye was enlarged and very prominent, the lids very much stretched but covering the eye easily. The corneal diameter much increased, and anterior chamber very shallow. The movements of the ball were much restricted, but constantly rolled. T+2. Vision nil. The ball could not be pushed back into the orbit; a thick hard mass could be felt behind the ball on pressing the finger back into the orbit. Pain said not to have been great at any time.

L. E. lids slightly swollen and tightly closed. Lachrymation moderate. Ball on forcible exposure normal in appearance, but convergent and having moderate irregular lateral nystagmus. Iris tawny, and pupil appeared (?) to respond to light. Vision could not be taken, as the child could not voluntarily open the eye, but there was no showing of sight and there was undoubtedly blindness.

Diagnosing a tumor of the optic nerve or a growth of some kind in the orbit behind the ball of the R. E., enucleation was advised. and with the consent of the father I performed the operation under ether June 30th, 1891. After freeing the bulbar conjunctiva and ocular muscles, the optic nerve was found to be very much enlarged, and with some difficulty was severed a half inch anterior to the foramen.

Hemorrhage was moderate and recovery good. The socket healed well and at no time discharged pus. The orbital contents and the cheek for some distance remained slightly swollen and discolored for three or four days. On the fourth day after the operation, the dressings were found saturated with a clear fluid coming from the socket. This continued for two days, requiring a change of dressing several times daily. On the fifth she complained of headache but was up most of the time. Monday July 6, (5th day) headache continued and she remained in bed. There were no other particular symptoms until 4 P. M. when she vomited freely and temperature was found to be 103.4°, being the highest noted, at the time the socket was hot and apparently tender. Vomiting was repeated several times during the evening, night and following day. There was slight delirium on the 6th day and of considerable violence during the next two days, A return to consciousness for a couple of hours occurred in the forenoon of the 8th day, but from that moment she grew steadily worse, and in the evening palsies developed, and apparently in the following order: R. face, R. arm, R. hand, R. leg and L. face; after which coma set in. Paralysis of deglutition began about forty-eight hours before death; it was gradual and not complete until twelve hours after the extinction of life. Incontinence of urine and fæces occurred during the last two days. Death took place at 5 A. M. July 9th. Being called out of the city Dr. F. Fisher and the resident surgeon of the hospital, Dr. Zimmerman, in my absence. made an autopsy at 10 A. M. the next day after the demise, and reported as follows:

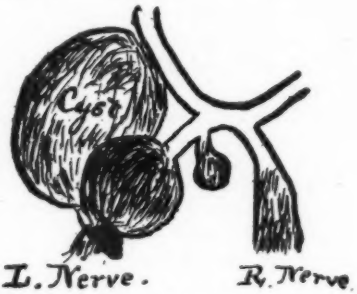
Body well nourished, but evidences of recent emaciation. General appearance normal except the Tibiæ, both being markedly bowed forward and slightly outward. The tissues in the socket of the enucleated eye much wasted. On removal of calvarium and freeing the brain from attachments, a universal meningitis (cerebral) was found. Veins enlarged, full and tortuous. Membranes covered with adherent pus of greenish tint, being most abundant over the convexity. The dura mater was but slightly inflamed, but in a few places adherent. The spinal canal was not opened, but as far as could be seen from within the skull, both the cord and its membranes seemed to have escaped any abnormal action, There were small pus floculi floating in the serum, which was not abundant.

R. optic nerve was distinctly and markedly swollen. That portion remaining within the orbit was adherent and swollen, but not the seat of purulent inflammation.

L. optic nerve, normal in size in the orbit, but external to the chiasm was the seat of a tumor having a diameter of ¾ of an inch and nearly globular. Another small soft growth sprang from the base near the Pons and on the R. side.

Hemispheres, on section the R. presented nothing of importance, while the L. showed imbedded wholly within the white substance of the middle lobe and anterior to the lateral ventricle, a cyst having well defined walls of size

1¼x1.x1. inches and having a light amber fluid contents, (*vide diagram.*) Other organs were not examined.



For microscopical examination the base of the brain including both tumors, optic tracts, chiasm and nerves was taken.

The specimen being given to Dr. Laplace for examination, reports as follows: "The tumor around or of the L. optic nerve consisted of a white friable mass with but little evidence of fibrous tissue. Here and there bloodvessels seemed to exist. On microscopical examination (x350) of a small teased particle revealed the presence of a multitude of small round cells; some having but one nucleus and others having two or three nuclei. The protoplasm of some of these cells was scanty and in some instances scarcely visible. Quite delicate ramifying filaments seemed to project from the majority of these cells. Here and there nervous filaments could be detected. Some cells seemed to have existed a longer time and already become spindled shaped. This tumor belongs to the class described by Virchow as Glioma, more particulally owing to the glue-like appearance of the growth in a fresh condition. It is still questionable whether this form does not really belong to the corresponding class of round celled sarcomata in other localities owing to their vascularity and their tendency to return, there is more than a likelihood that they do.

The small tumor springing from the nerve near the pons showed the same characteristics.

A section across the R. nerve shows the nerve fibres were pushed away from one another by masses of round cells, much resembling those constituting the tumor of the L. nerve. In many places the axis cylinders were compressed by the surrounding tissue. Here and there fully formed fibrous tissue had already grown encapsulating the nerve fibre.

The large cyst of the brain was unfortunately ruptured in the autopsy, leaving only the walls thereof, which were of fine fibrous tissue, nothing specially marked therein.

PROGRESS.

NOTES FROM CURRENT OTOLOGICAL LITERATURE.

By T. Melville Hardie, B. A., M. D.,

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Pityriasis, of the ear has been but little studied and is only rarely referred to in text books. It is said to be rare but the reporter is inclined to agree with Dr. Albespy (*in the Revs. de laryng. d'otol et de rhinol.* 1st. Aug. '92.) that it is not so unusual as has been supposed. It is quite possible that it is frequently confounded with seborrhoeic eczema or with some other desquamative otitis externa, in both of which the corrugated appearance of the scales which is distinctive of pityriasis is absent. In eczema there is usually some incrustation from the secretions and the scales are thicker. Pityriasis rarely develops before the age of twenty. (The reporter has seen one case in a girl of 18.) The subjective symptoms consist of an itching, more or less violent, noises in the ear which may be constant or not, (since they are caused by the presence of the accumulated scales upon the drumhead.) The scales naturally encroach upon the lumen of the ext. auditory meatus and produce more or less deafness. A sensation of heat in the ear is frequently complained of and occasional facial neuralgia. The cerumen is markedly diminished. The white or grayish scales, which are thicker toward their centres sometimes present a rose colored border; their surfaces are striated. The affection is ordinarily considered a stubborn one, lasting several months and not tending to a spontaneous cure.

Treatment.—Liq. Potass. arsenitis internally. Dr. A. recommends that the local treatment be always given by the physician himself. Remove what is possible by hot water injections, etc. Then take an absorbent cotton cylinder 3 *cm.* long, with a diameter equal to that of the canal. Dip this in a solution of nitrate of silver 1:20, introduce as deeply as possible into the meatus and leave for 24 hours. Repeat this until all the scales are removed when the surface of the canal will be reddened but not bleeding. Then substitute another cylinder dipped in the following:

℞	Ac. Salicylic	3.
	Canada Balsam	1.
	Collodion	16.

and change this daily for 4 or 5 days.

Some very hard things have been said, and not without reason, against the use of boric acid in otorrhoea. It has been the lot of a

good many of us to see it employed without discrimination or intelligence in clinics where better things were to be expected,

Its slight solubility is well known, the weakness of its antiseptic power is conceded and the knowledge of the impossibility of its application in a great many cases to the seat of the disease must occur with painful frequency to the routine manipulator of the powder blower. Dr. R. Kafeman (Dantzig) has published a brochure containing his results with the neutral and alkaline tetraborates of soda, first recommended by Jänicke, which is in this connection of interest. The tetraborate is quite soluble, its antiseptic powers are considerable and, employed in solution, the anfractuosities (Macaulay) of the middle ear are made straight into it. The tetraborate is unirritating and of course without danger. A non-complicated chronic otorrhoea is cured in a week. Its use in acute cases appears to be rapidly beneficial and it is even recommended in cases of superficial osteitis. Recurrences are not more frequent with this than with any other treatment and improvement in hearing is frequently noticed in the first day or two of its use. Dr. Kafeman earns our respect by his recognition of conditions which are suitably treated by surgery alone.

One of the latest things in ear instruments is the new catheter of Dr. Herzfeld, described in the *Berliner Klin Wochenschr*, No. 11. At the shoulder of the beak is a steel spiral of about twelve turns which gives the beak the ordinary curve.

A wire obturator used in introducing the catheter makes it perfectly straight. When the obstructions are passed the obturator is removed the catheter resumes the normal curve and may be introduced into the opening of the Eustachian tube in the usual fashion. The merits of this ingenious device are obvious but without having seen the instrument we should think there might be a difficulty as to the catheter keeping its curve in the not invariably passive naso-pharynx, The provision of a straight instrument is putting a premium upon unskilled labor. The cases are rare in which the ordinary catheter cannot be introduced. It is to be remembered furthermore, that the noses with deflected and "ridged" septa in which alone such a catheter would be used are in urgent need of attention from an otological standpoint even, and therefore for a second reason, the *raison d'etre* of the new catheter does not exist.

NOTES FROM LARYNGOLOGICAL AND RHINOLOGICAL LITERATURE.

By M. D. Lederman, M. D.,

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LINGUAL PHLEGMONOUS PERI-AMYGDALITIS.

Dr. Albert Ruault, Paris, (*Journal of Laryngology, Rhinology and Otology*, Vol. vi, No. 3.), in a monograph on this subject, the author, calls attention to the possibility of acute inflammation of this region, resulting in abscess formation. He gives the histories of six such cases.

He narrates the following symptoms, as usually accompanying the affection:

Onset often sudden, malaise, headache, sometimes nausea, shivering, fever, lasting from four to seven days, anorexia, thirst, often constipation, pains in the throat from the first, then shooting pains into one or both ears, very marked dysphagia, voice ordinarily unaffected, hoarse once in five cases, and dyspnœa twice in six cases. No swelling of neck, no enlargement of glands. Fever disappears after the pus has formed. Prognosis is very favorable, irrespective of possible complications.

The author's treatment is deep scarifications. This may prevent the formation of pus, although retrocession may occur without surgical interference.

Pus should be evacuated at once. A carbolic solution as a gargle should be given. Spontaneous evacuations will occur.

A CASE OF GLOSSITIS FOLLOWING INTERMITTENT FEVER.

K. Unioljuborr, Russia, (*International Centralblatt*, Vol. ix, No. 2.), the observer reports such a case, in which the disease was cured by the administration of quinine.

TREATMENT OF PHLEGMONOUS AMYGDALITIS.

Racoviceame, Piteschide, (*International Centralblatt*, Vol. ix, No. 2.), the author has treated 100 cases of this affection by the administration of salol, in conjunction with some laxative, the applications of the glycerole of iodine, and gargles of potass. chlorat. and has found excellent results from the treatment.

ACUTE FOLLICULAR AMYGDALITIS.

C. C. Hunt, (*International Centralblatt*, Vol. ix, No. 2.), the writer comes to the following conclusions:

1st. That the disease is a distinct entity.

2d. That it may originate as a sporadic affection, or appear as an endemic or epidemic affection.

3d. It may appear in three different forms, resembling diphtheria, but distinct from same.

4th. It is infectious.

CHANCRE OF THE TONGUE.

Fournier, (*Medical Record*, Vol. xli, No. 10.), this celebrated authority considers this lesion rare, although the most frequent of extra-genital chancres after that of the lips. It is usually situated on the anterior portion of the organ, and is almost always single. Two initial forms are found, the erosive and ulcerating, the former being more frequent than the latter.

SECONDARY SYPHILIDES OF THE MOUTH.

(*Medical Record*, Vol. xli, No. 10.), the same observer divides these into two groups, the moist and the dry syphilides. The first constitute numerous patches with their well known various forms; the second less well known, have received different names, such as syphilitic psoriasis, smooth plaques of the tongue, or ring-worm-like syphilides.

THE USE OF PYOKTANIN IN DISEASES OF THE UPPER AIR PASSAGES

Lincoln, New York, (*Journal of Laryngology, Rhinology and Otology*, Vol. vi, No. 2), the author praises the value of this drug wherever there is suppuration and ulceration of the mucous membrane, whether syphilitic symptoms or simple. He uses a 50 per cent. solution in acute and chronic inflammations of the tonsils. In diphtheria, he places rolls of cotton soaked with a 10 per cent. solution, into the nostrils, and has observed very beneficial results. It is of value in membranous rhinitis and in non-specific ozæna. Baron has found it of service in lupus of the soft palate and naso-pharynx with ulceration. The ulcers beginning to heal soon after its use.

PHARYNGO-MYCOSIS.

Dr. H. B. Stemenway, U. S. A., (*Journal of Laryngology, Rhinology and Otology*, Vol. vi, No. 2.), in an exceedingly interesting paper on this affection, the author describes the disease as a fungoid condition of the pharynx. The etiology of this peculiar and chronic disease is decidedly uncertain. The subjective symptoms vary from a slight tickling sensation to a decided feeling of obstruction. Cough may be present, associated with vomiting. Abjectively, spots may be seen upon the pharyngeal wall, or around the circumvallate papillæ of the tongue. When upon the tonsils they are seen to grow from the crypts. The color varies from a white to cream or yellow. The deposit is very tenacious, and when removed, is rapidly reproduced.

"Mycosis is differentiated from diphtheria by its chronic nature by less tendency for the fungus to spread; by absence of fever and symptoms of systemic disturbance (except when accompanied by tonsillitis); by absence of the diphtheritic odor; by absence of pain, and by the form of the fungus."

Prognosis.—The affection is more troublesome than dangerous. Accompanying it are frequent attacks of acute amygdalitis.

Treatment.—The author thinks the best method is the thermo or galvano-cautery. Semon claims to have cured a case with chlorate of potass and tannic acid. Seifert affected a cure with a gargle of sodium borate and ice.

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PROFESSIONAL NEWS.

LONDON, ENG., July 1st, 1892.

At the invitation of the President of the British Laryngological and Rhinological Association, I attended its meeting July 1st, in Chandes Street Cavendish Square, London. There were some twenty members present. Mr. Lennox Browne in the chair, and Dr. George Stoker, honorary secretary. When I arrived Dr. MacIntyre, of Glasgow, was reading a very interesting report of a case of Rodent Ulcer of the Nostrils, which he removed by a most radical operation, opening of the anterior side of the nose and face, which he stated was a perfect success, the minute details of which he has promised for future publication.

The second case, by Mr. Lennox Browne, of a successful removal through the mouth, of a small plate of artificial teeth, impacted in the gullet for three and a half years. The plate was exhibited and was of rubber.

The third case was one of Stenosis of the Larynx, the result of syphilitic ulceration, yet the disease had not shown itself in any other part of the body. The chief treatment had been by mercury, carried to salivation, and he now desired the opinion of the members, as there remained an appearance like the soft palate. Most of the members advised the removal of these growths, and the gradual dilitation of the stenosis. The president had seen very bad results in these syphilitic cases whenever the knife was applied in the rapid and great increase of the growths.

Then followed three varieties of microscopical specimens of diseased tissue from nose, throat, etc., by Mr. Wyatt Wingrave.

After some important notes on the "Further Etiology of Affections of the Upper Respiratory Tract" and a very full description of the various forms of bacillus and germs found in this region with the importance of the prevention of the same, the members of the society were invited into a dark cabinet, and by means of the oxhydrogen illumination, Mr. Wyatt exhibited a very large number of these bodies, much to the gratification of those present.

At five o'clock the members were invited into the library, where they spent some time in social converse refreshed by a cup of tea.

The Society convened again at 5:15, when Mr. Bendelack Hewetson, of Leeds, read a paper "On Relations between the various forms of Nasal Stenosis and Deafness." This gentleman explained his method of dilatation of the nares by means of a powerful metalic instrument, like an ordinary glove stretcher, the handles governed by a powerful spring. In operating with the instrument, in all cases it is to be used under the anesthetic influence of ether. After douching the parts a small celluloid catheter is introduced into the nostrils attached to a tape, which is carried around the head. Expressions of opinion by members of the society differed very much as to the usefulness of the powerful crusher, and fears were expressed that in the hands of careless operators it might do injury. Mr. Hewetson stated that no bad effects had resulted as yet in his hands, and he exhibited some interesting photographs illustrating the appearances before and after his operation. Mr. Mayo Collier objected to the use of the instrument, and to the unscientific theory of the author as to the cause of this form of stenosis. The President stated that after operation for stenosis, he, like Bosworth, of New York, had given up the douche, as it was apt to waterlog the parts, and interfered with their healing.

Dr. Stoker made some remarks in which he ridiculed the present treatment of deafness by means of Politzer's inflation apparatus.

Dr. L. Turnbull, of Philadelphia, was then invited by the President to address the society, which he did as follows: In the treatment of deafness the Otologist of the present day avails himself of the surgical measures which are in vogue so as to free the nares and posterior part of the pharynx, indeed, of any means that would prevent a free passage of air through the Eustachian tube. When the passage is free from foreign bodies he makes use of Politzer's apparatus with various oils and vapors, so as to restore the parts to as fair a condition of health as possible. He further stated that the Aurist and Laryngologist and Rhinologist should work hand and hand, and should not let one of the departments languish, as evinced by the absence of some of your most prominent Aurists, also the evidence of a want of united action in the forthcoming meeting of the British Medical Association to take place at Nottingham. Formerly when we had the pleasure of meeting the Association the attendance was most creditable. We were pleased to know that during the winter Professor Politzer, of Vienna, the veteran in this department, visited London and was kindly received and entertained by your medical men. This hospitality so generously extended to Prof. Politzer, has been well earned, for with the exception of your deceased Toynbee and Alinton, he has done more to extend the knowledge of the pathology of the ear than any one single man. His recently admirable work has been well translated by one of your medical men, my friend Dr. Stone, of Liverpool, and thus Politzer's labors have become more available to the younger medical men of this large country. We also understand that Proffessor Gruber will make a visit to this city during the Summer. Again thanking you for the honor you have done me, etc.

The President, Mr. Browne, then delivered his retiring address, which showed the good work done by the society. His successor for the years 1892-93, is Dr. Sandford, of Cork. The society then adjourned.

The members of the society with distinguished guests, were entertained by Mr. Browne, the retiring President, by a sumptous dinner, concluding the evening with a most charming Musical.

The Aural and Laryngological Surgeons of London, are generally a fine set of medicsl men, and hold an enviable position in society, are learned, as well as being accomplished men of science. The credit of being the most learned among them is given to Dr. L. Purvis, who has earned his title by careful writings; he is an accurate diagnostician and is successful in treatment, being not very strong and has to be careful, etc.

Woakes comes second; he also is a writer of note and a deep thinker, all his productions being of that character that demands and receives careful attention from all members of the profession. Field is also a writer, and has given much attention to electricity in the treatment of diseases of the ear.

These departments ef medicine have lost, by death, one of their most brilliant and noble men, the late "Mackenzie," one whose place is hard to fill in Laryngology.

Lennox Browne has done much and is widely known for his devotion to these two departments. He was the President of the British Laryngological and Rhinological Association. He is an accomplished amateur artist, the evidence of which may be seen in his book, (see recent paper by him, "The Pathology and Diagnosis of Necrosing Ethmoiditer," pamphlet, p. 28,) and also in the many fine water colored drawings on the walls of his handsome reception room. Then we have McNaughton Jones, a very charming man and a true scholar, who has done some admirable original and statistical work, and who has great versatility of medical talent, being very successful in his special work. We have Dalby, who formerly did some admirable work in his report of cases, etc., for which, and his popularity with the general profession, he received the proper recognition at the hands of the Queen of Knighthood.

The Aurist and Laryngologists should work hand in hand, as there is a very close relation between the ear, throat and nose, and we hope to see them united, as they should be, in one department, as is the case of the lately reorganized section of the American Medical Association.

We were pleased to know that during the winter Politzer, of Vienna, the veteran in this department, who has done more than any one man of his age to extend the scientific treatment of diseases of the ear, and its pathology, visited London and exhibited many beautiful and rare pathological preparations of the ear and gave interesting discriptions of the same to numerous physicians, and in turn received much attention from them.

Stone, of Liverpool, and others were attracted to London during Politzer's stay. Stone has recently brought the knowledge of Politzer's work prominontly before the public by an admirable translation of the recent work on these and kindred subjects.

There are many of the younger men devoted to these special subjects who deserve mention, but my time is too limited in this short letter to enter upon them at this time.

LAURENCE TURNBULL, M. D., of Philadelphia.

BOOK REVIEWS.

ANNUAL OF THE UNIVERSAL MEDICAL SCIENCES. A Yearly Report of the Progress of the General Sanitary Sciences throughout the World. Edited by CHARLES E. SAJOUS, M. D., and Seventy Associate Editors, assisted by over Two Hundred Corresponding Editors, Collaborators and Correspondents. Illustrated with chromolithographs, engravings and maps. Five volumes. The F. A. Davis Company, Publishers, Philadelphia, New York, Chicago, and London. Australian Agency: Melbourne, Victoria. 1892. Price, cloth, $15.00; half morocco $20.00.

The fifth series of this valuable work made its appearance somewhat earlier this year than usual, but as usual it was mature and was well dressed before it appeared.

The Annual of the Universal Medical Sciences has become an indispensable publication, to reading physicians who aspire to keep up with the advances made in all departments of medicine, during the year. The enormous amouut of labor and capital expended on this work does great credit to American talent and enterprise, and all American physicians have cause to be proud of the Annual. We are informed that the editor and publishers are preparing to issue the work in the French language which will give American contributors the recognition to which they are fairly entitled, on the Continent. It is evident that the Annual has done more to make Europeans acquainted with American Medicine than any other publication.

No active, progressive American physician can well afford to be without the Annual.

HAND-BOOK FOR OPTICIANS. A Treatise on the Optical Trade and its Mechanical Manipulations. By W. BOHNE, Optician. Second Edition. Thoroughly Revised and Greatly Enlarged. With Illustrations. Published by the author, 119 Canal street, New Orleans, La. Price, $2.50.

The first edition of this hand-book was published in 1888, and contained 108 pages.

A demand for this the second enlarged edition indicates that the scientific optician is making an effort to advance and is rapidly taking the place of the spectacle peddler who attempts to play both oculist and optician.

The book now contains 248 pages and is sufficiently well illustrated. While it is intended for the practical optician it is of interest to the oculist, as it contains much valuable information that is not found in books on Ophthalmology.

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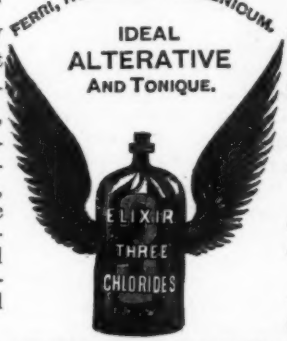

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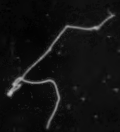

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The indications for the treatment of influenza are three-fold: To control nervous hyperæsthesia, securing absolute rest; to prevent extension of inflammations of the respiratory tract; to guard against dangerous sequelæ by heart tonics and proper nutrition.

CEREBRAL SEDATIVE COMPOUND fulfills the first indication, combining the bromides, chloral, gelsemium and opium.

ANODYNE PINE EXPECTORANT admirably meets the second indication, allaying bronchial irritation. It combines white pine bark, wild cherry bark, spikenard root, balsam poplar buds, blood root, sarsaparilla bark, morphine acetate and chloroform.

SYRUP OF IRON CHLORIDE and ESENCIA DE CALISAYA are red blood-corpuscle makers *par excellence*, and may be combined with normal liquid digitalis, or fluid extract cactus grandiflorus, with stimulating, nutritious diet, to meet the third indication for treatment.

Descriptive literature and all information desired concerning our products furnished on request.

PARKE, DAVIS & COMPANY,

DETROIT, NEW YORK AND KANSAS CITY.